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California's Computer Magazine MARCH 1988 • 41

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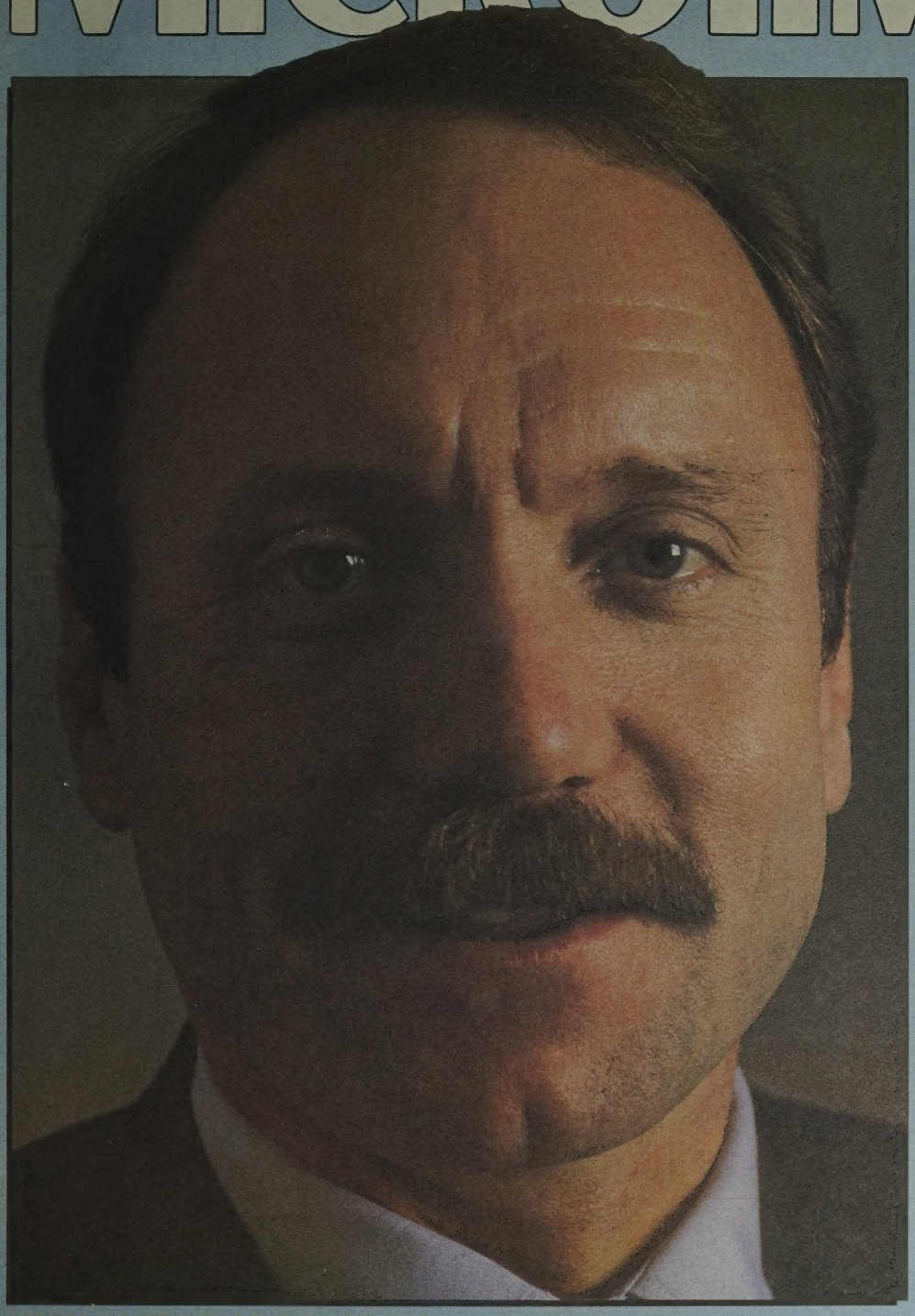

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REVIEWS:

- **MS Windows 3.02** Presentation Manager Debuts
- **INFO-XL** Information Management For Non-Programmers
- **GEM Publisher** Desktop Publishing For The PC

COLUMNS:

PC Systems, UNIX, Telecommunications, Amiga, Atari ST, Apple II

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MICROTIMES

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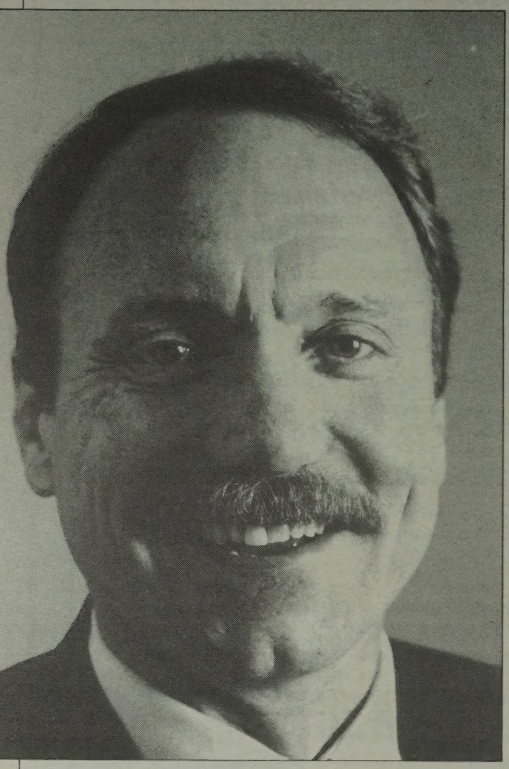

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By Mary Eisenhart

Developers of elegant and powerful DBM software for the Fortune 500, this Berkeley-based company is part of the connectivity strategies of Apple, Ashton-Tate and Microsoft. In this interview, Sybase president and co-founder Mark Hoffman explains its products and strategies.

Mark Hoffman, president of Sybase, talks about data base management and connectivity.

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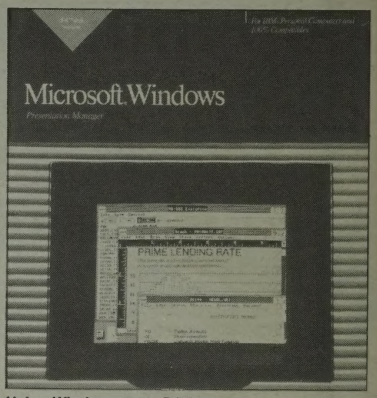

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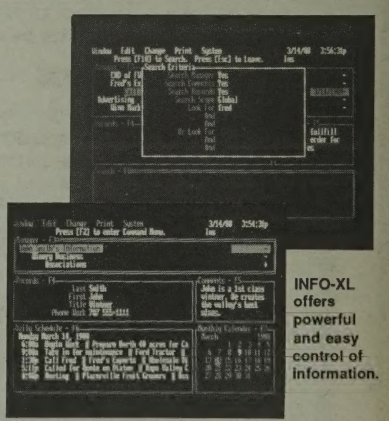

INFO-XL offers powerful and easy control of information.

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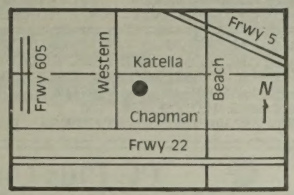

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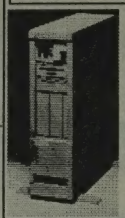

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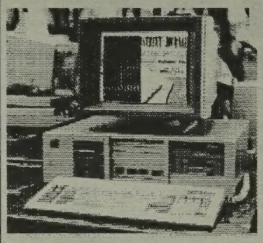

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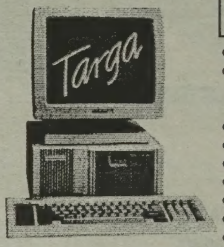

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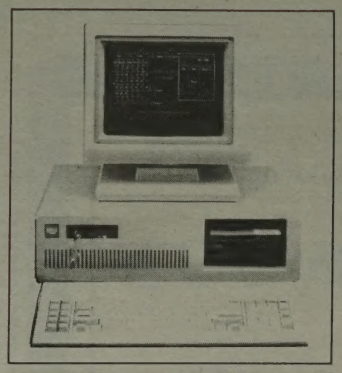

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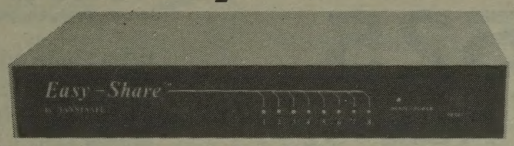

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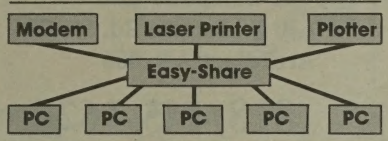

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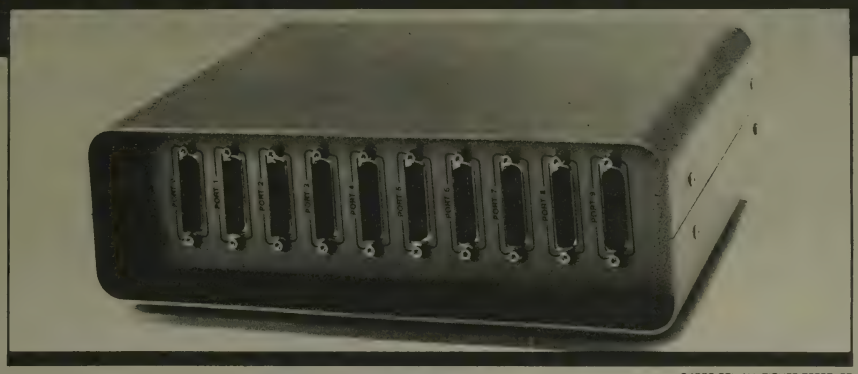

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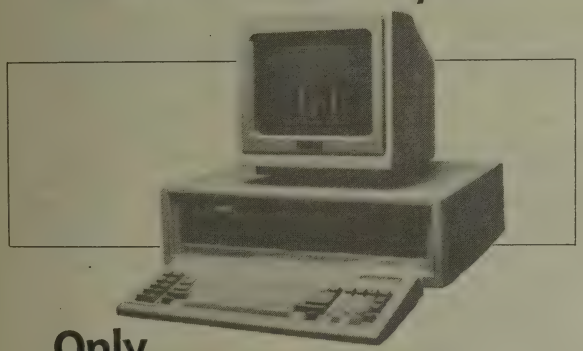

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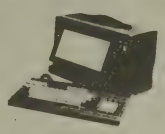

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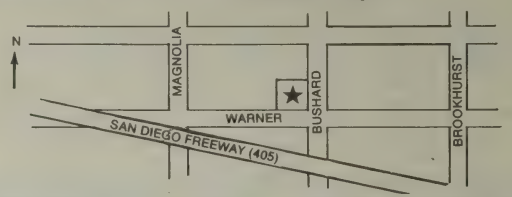

BUT JAN LEWIS SAYS . . .

The Information Age Comes of Age

If you trace human communication back to the beginning of our species, I believe you will find seven key communication media — seven technological breakthroughs that galvanized change in society by altering the way people communicate with one another. The evolution of our species, one might argue, is shaped by our form of communication, and, in this regard, perhaps, the medium is the message.

The history of human communication unfolds in stages, as new technology makes it possible for new media to emerge. Each of the seven key media represent technologies that democratize information by allowing more people to participate in its creation and/or consumption. And in all cases, the social consequences outlive the technological breakthroughs as they dramatically alter the established political hierarchies.

Let me start by offering a short description of each of the seven media:

1) **pictureforms:** including, for example, drawing on cave walls
2) **speech;** storytelling; oral history
3) **letterforms;** alphabets; writing: everything from The Ten Commandments to the Gettysburg Address
4) **printing press;** mass-producable letterforms
5) **electronic information:** everything from on-line databases to CD-ROMs
6) **imageforms:** including video, film, audio, etc.
7) **hypermedia:** tools which change the *topology* of information

There were several criteria which I used to define the key media. In all cases, the key media have the following in common:

- each makes possible a significant expansion in the reach of information
- each provides new paradigms for conveying and exploring information
- each provides information access to whole new classes of people
- each empowers individuals by democratizing information

What do I mean by democratizing information? Giving more individuals the ability to access and disseminate information. The ideal would occur when all people have equal access to all information. If information is power, then the story of increasing access to information is a generally unreported story about the distribution of power in the world.

Basically, there are two ways that a medium can democratize information. One way is by increasing distribution, i.e. increasing the physical or logical transporting of the information. The other way is by making the information more usable to a greater number of people.

A medium will become "mass market" only if it satisfies two criteria: it reaches the masses, and the masses know how to use it. This is an oversimplification, of course. It would probably be more accurate to say that the extent to which a medium becomes mass market is a function of the extent to which it physically or logically reaches the masses and the *extent* to which the masses know how (or figure out how) to use it.

When we think of a revolution, we think of sudden uprisings and rapid change. Likewise, when we think of the information revolution which took place as a result of, say, the printing press, we think of it as a rather sudden event that produced major changes in a very short period.

But in fact, the information revolution set off by the printing press didn't reach critical mass for several generations. In the early days of the printing press, most of the population could not avail themselves of books even though they could be "mass produced." In fact, for the average individual, access to the printed word — wasn't realized for almost a century. It was not until the "technology" (literacy) and the "user interface" metaphor (the book) were assimilated into the population that information became democratized via the printed word.

Ted Nelson, the inventor of hypertext, was once asked whether he believed that information should be reserved for the elite. He answered that he was a "popu-litist." He believes that yes, information should be for the elite, but that everybody should be among the elite. Sounds like a noble aspiration to me.

Are we headed in that direction? We'll try to answer that question next time, when we examine each of the seven key media and the ways that each one produced (or will produce) its own information revolution.

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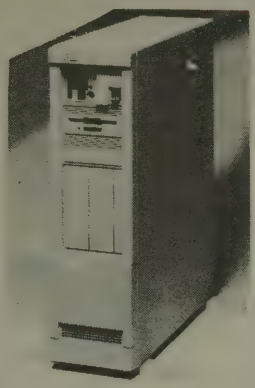

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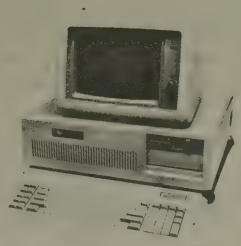

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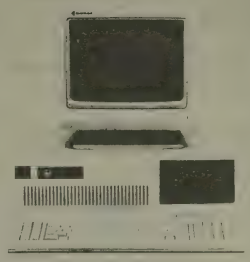

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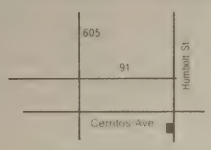

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Intel/NEC Case Starts Over; AT&T Invests In Sun; Apple And DEC Join Forces

Intel Vs. NEC Case Back To Square One

One of the most important chip cases in American law, determining whether the instructions in CPUs could be copyrighted, was derailed last month when the judge in the dispute between Intel and NEC quit due to a conflict-of-interest charge in the case. As he left the case, the judge, William Ingram, voided his previous rulings, making it unclear again whether the microcode which tells CPU chips how to operate was covered by U.S. copyright law. Intel had charged that NEC made an illegal copy of its 8086 CPU; NEC had countered that the microcode couldn't be copyrighted, and, even if it could, NEC hadn't copied it.

The judge had ruled earlier that microcode could be copyrighted, but had not ruled on whether NEC's design infringed on Intel's copyright. At the time, the ruling was hailed by large American chip manufacturers as a method of protecting them from foreign competition. However, it also locked in almost absolute monopolies for manufacturers of popular chips like the Intel family of chips used in IBM PCs or the Motorola family of chips used in the Apple Macintosh.

Late last year, NEC discovered that the judge unknowingly owned $80 worth of Intel stock through a stock club and asked that he be disqualified. That request was being decided by a higher court when the judge resigned voluntarily. The new judge will be William P. Gray of the U.S. District Court in Los Angeles. The first arguments in the new case will be heard this month.

AT&T Will Buy 20% Of Sun Microsystems Stock

Sun Microsystems and AT&T announced that the telecommunications giant will buy a 20% stake in the rapidly-growing computer manufacturer. The move gives Sun extra cash to spend on research and development and gives AT&T a seat on Sun's board of directors. AT&T announced that they plan to nominate Vittorio Cassoni, president of AT&T's Data Systems Group.

AT&T has had a disastrous four years in the computer industry, and its liaison with Sun could help pull AT&T out of its slump. Sun has proven to be an excellent research and development company for AT&T's UNIX operating system, and is on the forefront of the move to unify the various types of UNIX in the marketplace. AT&T may also decide to remarket Sun's computers.

The working capital will help Sun in the short run with their research. AT&T has agreed to buy 15% of Sun in any new stock that Sun issues at a 25% premium. This premium will net Sun approximately $50 million over what it would have gotten at normal prices. AT&T will buy the remaining 5% in the open market.

Sun and AT&T have made many technology agreements in the last few months. In October, AT&T and Sun agreed to work together on a unified version of UNIX that will run on Sun's RISC chip. That chip will also be produced by other chip manufacturers.

Although Sun claims that the agreement prevents AT&T from taking over Sun for at least ten years, many stock analysts disagree. One of the provisions of the agreement is that if another company buys a bigger share of Sun than AT&T already owns, AT&T can up its stake to the same amount. If another company buys 40% or more of Sun, AT&T could buy Sun outright. Although there are no known companies planning a hostile takeover of Sun, its prominence in the computer industry and its rapid growth could make it an attractive target in the next few years.

Not everyone was happy with the announcement: Sixteen computer manufacturers complained in a telegram to AT&T Chairman James Olson that the pact could lead to AT&T's ignoring or downplaying other attempts at standards, such as the international X/Open committee. Signers of the telegram included a wide range of UNIX computer manufacturers, including Apple, DEC, Hewlett-Packard, Apollo, NCR, Unisys, Honeywell Bull, Gould, Silicon Graphics, and MIPS.

Stock market watchers compared AT&T's move to IBM's move with Rolm. Initially, IBM bought a small part of Rolm's stocks and talked about their similar market views. Later, however, IBM bought more of Rolm and folded it into the IBM corporation. AT&T would have a much harder time doing that to Sun since the corporate styles are vastly different. However, if AT&T has more bad years in the minicomputer market, the prospect of having a well-respected and complete midrange line might become very attractive.

DEC And Apple Sign Connectivity Pact

In a much-heralded announcement made at the beginning of the MacWorld Expo, DEC and Apple announced a joint plan to link their products more closely. The agreement by Ken Olsen of DEC and John Sculley of Apple indicates that the two firms will work closely on creating standard methods for DEC's VAX line of minicomputers and Apple's Macintosh line of microcomputers to share data. In addition, the firms will make it easier for VAXes to use Macintoshes as intelligent terminals.

Less than a week after the Apple-DEC announcement, DEC went further to say that it will also integrate micros from IBM and compatible manufacturers into its network. At that second announcement, Olsen said, "The Macintosh is just

Paul Hoffman is a freelance writer who has written five books about computers.

Kenfil Announces Top Software Sellers

BUSINESS & PRODUCTIVITY —MS-DOS

Last Month	February	
–	1	Turbo Tax
1	2	WordPerfect
–	3	Quattro
11	4	Turbo C
2	5	Managing Your Money
7	6	Turbo Pascal 4.0
5	7	Formtool 2.0
3	8	Carbon Copy Plus
9	9	WordPerfect Library
8	10	PrintMaster Plus
10	11	Mirror II
4	12	Dac Easy Accounting
–	13	Gem Draw Plus
–	14	Dac-Lite
–	15	Clipper

UTILITIES—MS-DOS

Last Month	February	
1	1	Norton Utilities Advanced
9	2	XTree Professional
14	3	Norton Utilities 4.0
2	4	Disk Technician Plus
–	5	Fastback Plus
4	6	Sideways
5	7	Mace Utilities
7	8	Direct Access
3	9	Disk Optimizer
11	10	Print Q
–	11	PC Tools
6	12	Desqview
8	13	XTree
10	14	SeeMORE
12	15	COREfast

MACINTOSH

Last Month	February	
2	1	MacMoney
3	2	Dark Castle
1	3	Superpaint
–	4	Canvas
–	5	Suitcase
–	6	Write Now
7	7	Stepping Out
8	8	Silicon Press
9	9	Smart Alarms
–	10	Apache Strike

Source: Kenfil Distribution, Van Nuys, CA. "Kenfil February Bestsellers."

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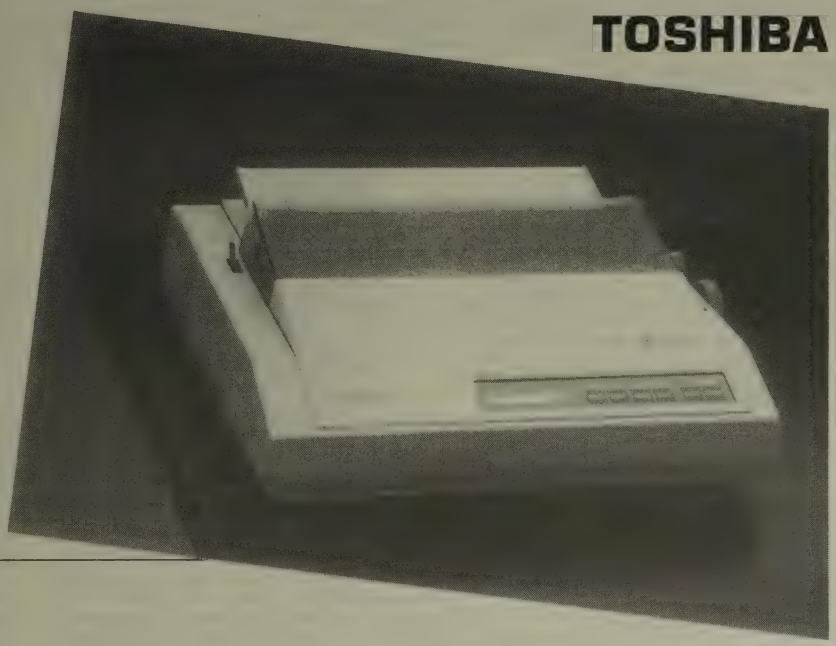

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Balboa, CA 92661
714 675-6664

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Garden Grove, CA 92640
714 530-1880

NR Systems
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Northridge, CA 91324
818 349-9898

National Computer Specialists
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San Diego, CA 92120
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COMMUNICATIONS • 303/304/358/359 • FIDO BBS : User friendly bulletin board.
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EDUCATIONAL • 2502 • PC-TOUCH: Typing tutor for all ages.
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GAMES • 251 • GLOBAL THERMAL NUCLEAR WAR.
GAMES • 204 • ARCADE GAMES: Kong, 3-D Pacman, Pango, (color monitor)
GAMES • 255 • DUNGEONS & DRAGONS V1.21: Be the dungeon master.
GAMES • 277 • CARD GAMES: 21, BJ, Bridge, Crazy8, Cribbage, Holdem, Jackpot2, Lowball, and Poker.
GRAPHICS • 759 • HGCIBM V2.02: Similar to SIMCGA -Emulate color graphics with your Hercules or compatible card.
HACKERS • 402/410/411/414/416: Back up commercial programs
MUSIC • 2401 • PC-MUSICIAN V1.7: Develop & play back songs on your PC.
RELIGIOUS • 3601-3106 • KJV Old testament; 3607/3608- KJV New testament -arc'd, (8 disks) - also available unarc'd.
SPREADSHEET • 503/504 • EXPRESSCALC V3.09: "3-D" capable. (2 disks)
UTILITIES • 3116 • ARCMASTER V1.1: Full-featured menu driven file mgmt. system for compressing and decompressing ARC files.
UTILITIES • 3408 - STILL RIVER SHELL: Run DOS commands from a menu.
UTILITIES • 3106 • ARCHIVE V2.7C: Back up your hard disk. SST V2.01: A disk optimizer, and SUPERDOS V0.9: A hard disk directory mgmt. program.
UTILITIES • 3110 • MASTERKEY V1.7c: Like Norton Utilities, only better!
UTILITIES • 607 • LOTUS 1-2-3 UTILITIES: Worksheets to develop a budget, perform dividend and interest calculations and more. (Req. Lotus-1-2-3)
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one piece, although one of the more interesting pieces, of the broader strategy." It is likely that DEC will make stronger connections to computers running OS/2.

The Apple-DEC agreement makes it easier for Apple to penetrate business markets in which DEC has been successful. DEC has tried many times to create a successful microcomputer, each time having it rejected by both its own customers and non-DEC buyers. The pact makes it easier for VAX users to use Macintoshes and Macintosh users to connect to large minicomputers.

Although very few specifics were mentioned in the announcement, the firms did say that the outcome would be a better linking of Apple's LocalTalk network to DEC's DECNet system. DECNet is a open system based on a widely-published (and still unfinalized) standard called OSI (Open Systems Interconnect). The OSI standard is being formulated by the International Standards Organization. The result will be that Macintoshes will be able to share tasks such as data management and printing with VAX computers. Other companies can participate in the sharing simply by following the OSI standard. The firms claim that the agreement makes OSI one of the most important open standards in the computer industry. In addition, the firms said that they will work on methods for the systems to be able to share files and printers.

Conspicuously absent from the announcement was any mention of IBM. Both Apple and DEC have long attempted to thwart IBM's dominance in the connectivity market, but with little success. After the issue of IBM's SAA was raised during the question period after the speeches, both Apple and DEC stated that they were still working on connecting to SAA.

The two companies may or may not market each other's products. Both companies pledged to continue to compete in their current markets (the Macintosh II vs. the DEC MicroVAX). Both companies emphasized that there is no plan for either to purchase the other. More announcements about the pact will be made in August during a DEC-Apple developer's seminar.

Apple Introduces Printers, MS-DOS Connectivity Software, And MIDI Interface

Using the MacWorld Exposition as its platform for showing new products, Apple announced many long-rumored additions to its hardware and software lines. The most popular additions were three new LaserWriter printers, which replace the older LaserWriter and LaserWriter Plus. The three LaserWriter IIs cover a wider range of price than the previous series. All three printers use a new internal engine which produces blacker printing, and can hold more paper in their paper trays.

The high-end LaserWriter II NTX is a much faster and more convenient PostScript printer than the current LaserWriter. The NTX has a faster processor, and its two megabytes of internal RAM memory can be expanded by adding more RAM or by adding a hard disk through its SCSI port. Adding a hard disk is a low-cost method of storing hundreds more fonts or allowing for more complex drawings, according to Apple. It would also greatly speed up printing for documents that do not use the standard internal fonts. The list price will be $6599.

The mid-line printer, the LaserWriter II NT, is a slower version of the NTX printer without the SCSI capabilities; however, it can be upgraded to an NTX by changing its controller board. Although Apple allows users to upgrade their own printers, it strongly recommends that only dealers perform the work since the boards are sensitive to static electricity. The NT costs $4599, which means that it will probably cost less than the current LaserWriter.

The low-end LaserWriter II SC is Apple's first non-PostScript laser printer, although it will be capable of printing text and graphics at 300 dots per inch. The printer driver software supplied with the SC allows you to print text at this high resolution if your system has fonts that are four times the size of the font used on the screen. For example, if you use 12-point Helvetica font and your system has 48-point Helvetica, you will be able to print at the high resolution. Apple will supply these large sizes for popular LaserWriter fonts, and other font manufacturers also announced larger sizes. At $2799, the SC is more expensive than other non-PostScript printers, but it can be upgraded to the NT and NTX later.

Apple also lowered the cost on its LocalTalk PC card to $249 from $399. LocalTalk (previously AppleTalk) is Apple's networking scheme for Apple computers and IBM PCs. Apple also released the AppleShare PC software product, announced last August, which allows users to treat an IBM PC as a disk server, and allows the PC to access files and printers on the network.

Apple also released a MIDI (musical instrument digital interface) interface box for the Macintosh and Apple IIGS. The $99 box allows the computer to control musical instruments that have their own MIDI interfaces. There are already many programs for both the Mac and IIGS that work with the box. Apple also showed the interface at the National Association of Music Merchants conference that was held at the same time as the MacWorld Expo. Apple, 408/996-1010.

Claris Announces Upgrades To Apple Products

Apple's software spinoff, Claris, announced upgrades to its mainline products. *MacWrite* now has a spelling checker. *MacPaint* can have many windows open at the same time, and the windows can be at different resolutions. *MacDraw II* will be much faster than the original *MacDraw* and can be used at much higher accuracy; it will cost $395. *MacProject II* handles much more complex resources than its predecessor, and will cost $495. Claris also introduced a form-handling package called *SmartForms*.

Claris also announced that it would do extensive technical support for its programs. The technical support phone number, 415/962-0371, will be staffed from 6 AM to 8 PM Pacific Standard Time during the week. Claris will also participate on electronic mail networks to support its products.

Claris took out its first advertising, premiering in the *Wall Street Journal*. Although both Claris and Apple have made many statements about how separate the two companies are, Claris has angered many other software developers by seemingly keeping close ties with Apple. For instance, Claris uses the same advertising agency (BBD&O) as Apple, as could be seen from the style of the advertisements. Claris also uses the same public relations firm, Regis McKenna. Claris says that the teams working on the Claris accounts at both firms have been told to avoid contact with the teams working on Apple's accounts. Claris, 415/962-8946.

Other MacWorld Expo Announcements

Many other companies used the MacWorld Expo as a vehicle for making product announcements.

- Activision showed an advanced report generator for *HyperCard*. The program, *REPORTS!*, gives *HyperCard* more capabilities for printing from *HyperCard* stacks. The stack costs $100.
- Addison-Wesley showed Volume 5 of *Inside*

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❒ **ADULTS ONLY/1 (147)** - German porno, great animated graphics. CGA req.
❒ **STRIP POKER (148)** - Pick out your female opponent & watch out for your pants. CGA & Basic required.
❒ **X-RATED PRINTMASTER(149)** - X-Rated graphics for Printmaster. Printmaster Plus required.
❒ **X-RATED PRINTSHOP (150)** - X-Rated graphics for Printshop. Printshop required.
❒ **BAD-BAD (289)** - Naughty adventure game. CGA required.
❒ **ASTRO-[bleep] (297)** - Porno arcade game. CGA required.

BUSINESS

❒ **EZ-FORMS Rev. A (66)** - Menu driven forms generator with skeleton forms.
❒ **G/L, A/R, A/P, P/R (76)** - A well written General Ledger package.
❒ **REAL ESTATE ANALYST (83)** Menu driven, mortgages, interest, etc.
❒ **UNCLE (233)** - Federal tax analysis & spreadsheet. For '87.
❒ **BUSINESS LETTERS (303 & 304)** - (2 disk set) 650 business letters to fit all your needs.
❒ **MR. BILL V3.2 (311 - 312)** - (2 disk set) Time & billing package, small to medium sized business'.
❒ **ESTIBID (313 - 317)** - (5 disk set) Estimating program for manufacturers & contractors.
❒ **RENTAL PROPERTY (318)** - Keeps track of rental activity.
❒ **THE FRONT OFFICE (345 & 346)** - (2 disk set) Prospecting, costing, order processing, sales mgmt.

COMMUNICATIONS

❒ **9MODEM V3.1 (293 & 294)** - (2 disk set) Good full featured modem program.
❒ **PROCOMM V3.1 (329 & 330)** (2 disk set) Menu driven, terminal emulation, still one of the best.
❒ **EQUAL PARTNERS V1.11 (418)** - Transfer data between 5.25" and 3.5" floppies via a serial port.

DATABASE

❒ **FILE EXPRESS V4.01 (33 & 34)** - (2 disk set) Menu driven, easy to use for beginners to advanced.
❒ **WAMPUM V3.0 (37 & 38)** - (2 disk set) Menu driven dBase III clone, compatible with dBase files.
❒ **PC-FILE + V1.0 (295 & 296)**- (2 disk set) Full-featured database; help screens, menus, macros.
❒ **DBASE III PROGRAMS (348)**- Genealogy, Menu, Disk cataloguing & more. BBASE III req.
❒ **DBASE III UTILITIES (349)** - Contains utilities for household inventory, Desktop, etc. BBASE III req.

EDUCATION

❒ **PIANOMAN (4 & 5)** - (2 disk set) Makes your PC a music synthesizer, has tunes you can play, modify.
❒ **FASTYPE & TYPERITE V2.1(120)** - Two typing programs, tutor from beginner to advanced.CGA req.
❒ **BEGINNING SPANISH (121)** - Teaches vocabulary, phrases, & words. Great for students. Basic required.
❒ **THE WORLD (127)** - Display maps of the world. CGA req.
❒ **FUNNELS & BUCKETS V 2.0(130)** - Great learning game; add, subtract, multiply, & divide.Age 5-10.
❒ **ERYN'S ABC'S (131)** - Teaches alphabet & numbers. Etch-a-Sketch. Ages 2 - 6. Basic required.
❒ **MATHPAK (132)** - Teaches various math operations. Grades 5-8. Basic req.
❒ **AMY'S FIRST PRIMER (133)**- Shapes, matching, problem solving, etc. Ages 4 - 8. CGA & Basic req.
❒ **SAN MATEO EDUCATION (136)** - Teaches math, chemistry & geography. Ages 8 - 16. CGA required.
❒ **SPELLING BEE (138)** - Grades 1 - 12. CGA & Basic req.
❒ **POLYGLOT V6.01 (139)** - Vocabulary builder. Grades 7 - college. Multiple choice words or meanings. Excellent.
❒ **IQ BUILDER (187)** - Numbers, synonyms, antonyms, analogies. Basic req.

EGA PROGRAMS

❒ **EGA RISK (216)** - The game of world domination. Also contains EGA Roids. EGA required.
❒ **EGA UTILITIES/1 (260)** - EGA demos, change fonts & size of letters, etc.

GAMES

❒ **SLEUTH V4.1 (89)** - Murder mystery game similar to the board game "CLUE".
❒ **BLACKJACK (95)** - Advanced blackjack game with tutor, multiple players. Best one yet. CGA or Hercules.
❒ **MONOPOLY V6.7 (108)** - Just like the board game, 2 to 4 players. The computer keeps track of everything. CGA required. Supports EGA.
❒ **DUNGEONS & DRAGONS V1.1 (205)** The Classic Game. Can you survive?
❒ **3D CHESS V1.01 (215)** - Excellent chess game. Switch between 2D & 3D. CGA or Hercules monochrome.
❒ **SAM SPADE V1.0A (226)** - Great detective game. Mazegame; creates mazes. Fun City; escape from a NY ghetto.
❒ **DIGITAL LEAGUE BASEBALL V1.1 (344)** - Best graphics we've seen yet. Pick your team and players. CGA req.
❒ **WORDPLAY (367)** - Wheel of Fortune clone. Has everything but Vanna and Pat. You provide the prizes. CGA required.

GRAPHICS

❒ **HIRES RAINBOW V1.0 (64)** - Full featured paint package. Use joystick, mouse, keyboard. Zoom, erase, draw, spray, lines, brush, etc. CGA required.
❒ **PC-ART V1.0 (199)** - Create color pictures on a drawing board. Easy to use windows to select functions. CGA req.
❒ **LIGHTING PRESS (266)** - 100 % Printmaster clone, flyers, greeting cards, fonts, graphics, letterheads, etc.
❒ **CALENDAR CREATOR (350)** - Print your own calendar. Nice graphics.
❒ **PRINTMASTER GRAPHICS(319)** - 3 libraries of graphics for Printmaster.
❒ **PRINTSHOP GRAPHICS(320)** - 3 more libraries of graphics for Printshop.
❒ **DANCAD 3D V1.33 (424 & 425)** - (2 disk set) Advanced 2D/3D drafting program. Stereoscopic 3D wire frame animation. Drawings can be saved, loaded, magnified, rotated, flipped, moved and reused. CGA, 2 drives and 512K required.
❒ **TROPICAL FISH (427)** - An aquarium on your computer screen. CGA required.

LANGUAGE

❒ **"C" TUTOR (22 & 23)** - (2 disk set) 14 lesson tutorial, designed for the programmer who has prior experience with another high level language.
❒ **"C" LANGUAGE V2.1 (299 & 300)** - (2 disk set) Complete programming environment. Source, compiler, tools, library, samples.
❒ **BASIC TUTOR (325)** - A tutor for the beginning Basic user. A must for begining programmers.

MISCELLANEOUS

❒ **STRESS & SHRINK (74)** - Stress - stress test. Shrink - personality analysis. Agetest- medical age. Today - famous events,birthdays,today's date.
❒ **HORSERACING (343)** - Handicapping for thoroughbreds.
❒ **FAMILY TIES V1.15 (154)** - A genealogy program for the amateur or pro.
❒ **ASTROLOGY (155)** - Horoscope & Astrology programs. 1 requires Basic.
❒ **RECIPE MANAGER V1.1 (156 & 157)** (2 disk set) Recipe management system. Hundreds of recipes, or add more.
❒ **LOTTO (159)** - Advanced techniques to win big $$$.
❒ **FREEWILL V1.0 (171)** - Valid WILLS for California. Easy to fill in.
❒ **FASTBUCKS (191)** - Menu-driven home finance package. Easy to use.
❒ **BIORHYTHM (194)** - Print your own. Basic required.
❒ **TENANTS RIGHTS (196)** - Information for California renters. If you rent, you must have this.
❒ **ORACLE & TAROT V1.0 (234)** Discover how to use Tarot Cards or I-Ching.
❒ **MEALMATE (332)** - Nutritional database for meal planning.

PRINTER UTILITIES

❒ **IMAGEPRINT V1.2 (44)** - Makes 9 pin Epson compatible printers into letter quality printers.
❒ **FONTASTIC (46 & 47)** - (2 disk set) Unlimited variety of print fonts by creating your own or use the existing ones.
❒ **LASERJET FONTS (327)** - Downloadable fonts for the Laserjet Plus/II.

SPREADSHEET

❒ **LOTUS 123 PROGS/1 (28 - 32)** - (5 disk set) Contains as many applications and utilities that we could find. Requires Lotus 123 program.
❒ **LOTUS 123 TUTOR (177)** - Beginning tutorial for Lotus 123. Various worksheets. Requires Lotus 123.
❒ **AS EASY AS V3.0 (302)** - LOTUS clone. 52 column sheet, graphing, supports functions of 123, reads '.WKS' files. CGA req.

UTILITIES

❒ **DISK COMMANDO V2.0 (218 & 219)** - (2 disk set) Norton's Advanced Utilities Clone. Too many features to list.
❒ **SIM-CGA (220)** - Simulate a color graphics adapter on your monochrome monitor. Great for mono users.
❒ **DOS HELP (255)** - Help screen for DOS commands, functions at your fingertips. For DOS 3.XX.
❒ **DOS TUTORIAL V4.2 (256)** - Menu driven tutorial that teaches DOS commands, terms, & functions.nGreat for the
❒ **BEGINNERS (257)** - The basics of using most PD software.
❒ **PC MAGAZINE (277)** - Over 30 great utilities, rated by PC magazine.
❒ **DESKMATES V1.01 (278)** - Sidekick' like utility plus more.
❒ **AUTOMENU V4.01 (280)** - Access programs, batch files, DOS commands from one easy menu system. Major upgrade. Best Shareware program.
❒ **FILE COMMANDO V1.3 (283)** XTREE clone plus more.
❒ **DBS-KAT V1.3 (326)** - A disk cataloging program for your floppies. Can catalog 16,000,000 files.

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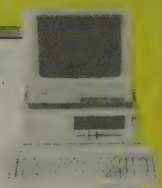

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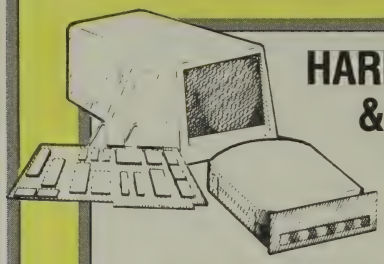

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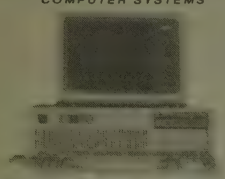

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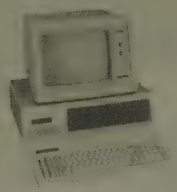

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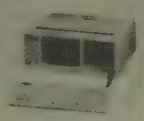

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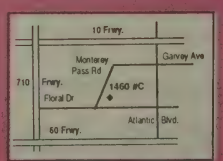

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Macintosh, which includes the Mac SE and Mac II. They also showed *HyperCard Power: Techniques And Scripts* by Carol Kaehler, a member of the *HyperCard* team.

• Adobe announced an upgrade to *Illustrator* that supports color and new special effects. The software will let users specify colors in terms of the Pantone Matching System that is common in the print industry. The program will be $495, and will be released in May.

• Adobe Systems showed its Display PostScript on five different computers: a DEC MicroVAX, a Sun microcomputer, a Mac II, an IBM RT, and an IBM PS/2 Model 80. Adobe is trying to convince computer manufacturers to use Display PostScript technology to control the screens of their computers.

• Coda Music announced a program that allows musicians playing a MIDI keyboard to record their music in standard musical notation. This greatly reduces the amount of work required to turn played music into a written composition. The software will cost $795.

• CompuServe has changed its *Navigator* program from being shareware to being a commercial program that costs $59. *Navigator* allows users to automatically choose which information they want to see in CompuServe. The program then dials into CompuServe and retrieves the information.

• Cypress Research showed a combination 2400 baud modem/9600 baud fax system. The peripheral will cost $900 and will work in the background in MultiFinder.

• Emerald City Software displayed a new environment for people writing programs that produce PostScript. *Lasertalk* generated a great deal of excitement among programmers, since it lets them view the output of their actions on the screen, making debugging much easier. *Lasertalk* costs $249, and includes on-line PostScript operator descriptions.

• Innovative Software created a stir by having a high-tech booth to show off its new spreadsheet, *Wingz*. Reminiscent of lines at Disneyland, conference attendees lined up to see the preview movie. The program can produce three-dimensional graphs in color that are dynamically linked to the data.

• Kodak showed the *Datashow HR*, a panel that connects to a Mac SE or Mac Plus and allows an overhead projector to display the Mac's screen. The panel costs $1,495.

• MacroMind showed a *VideoWorks II* driver for Apple's *HyperCard* which lets you add color and animation to *HyperCard* stacks. Users can use "clip animation" and sound created in *VideoWorks II* in any of their stacks. The driver costs $100. MacroMind also showed the *VideoWorks II Accelerator* that speeds up *VideoWorks* animation to between 30 and 40 frames per second. The compiler allows even complex presentations to be shown at movie-quality speeds, and costs $100.

• Microsoft announced an agreement with Genigraphics to jointly develop desktop slide-making services. Users of Microsoft's *PowerPoint* presentation software will be able to output their pictures on LaserWriters and send them to a Genigraphics service bureau to turn them into slides.

•Mirus also introduced a slide recorder called the FilmPrinter that connects to the Mac's SCSI port. The recorder copies onto standard 35mm slide film at a resolution of 2000 lines, and will be available in approximately six months.

• Radius announced the Accelerator 25, an accelerator board for the Mac SE that contains a 68020 CPU running at 25 MHz. This is significantly faster than other accelerator boards, which usually run at 17 MHz. It will cost around $2000.

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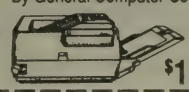

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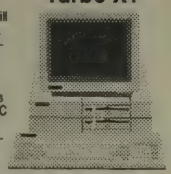

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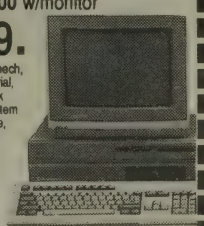

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•Second Wave introduced a chassis that allows Mac Pluses to use cards intended for the Mac SE. The chassis is claimed to work with all major SE expansion cards, such as accelerator boards and mainframe communications cards. It costs $995.

• SuperMac introduced a 24 bits-per-pixel color board for $2995. The board was shown in many booths around the show.

• Symmetry Corporation showed a desk accessory that can view most *HyperCard* stacks. *HyperDA* allows users to view stacks but not to update them or add information. It works on any Macintosh with 512K of memory, and costs $69.

• Tangent Technologies introduced two LocalTalk boards, one for IBM PCs and one for IBM PS/2s. The boards support all LocalTalk software from Apple, TOPS, and other vendors.

• TOPS announced the TOPS TeleConnector, a device that allows you to create a LocalTalk network using telephone wiring. The TeleConnector is similar to Farallon's PhoneNet connector, and costs $59.

• Truevision introduced the NuVista high-resolution graphics board for the Mac II. It uses the Texas Instruments 34010 graphics processor, and supports up to 32 bits per pixel at 1024 by 1024 pixels. It will cost $5995.

• *WordPerfect* for the Mac is still not available, but the company showed off a beta version of the software. Most of the keystrokes available on the PC version are the same on the Mac version.

Lotus Will Release Modern Jazz

After taking a drubbing for the limited scope and poor performance of its *Jazz* product for the Macintosh, Lotus has announced a new product, *Modern Jazz*, to be its successor. Lotus claims that to have kept the features of *Jazz* that owners liked and added many new features, such as macros and 3278 emulation. The new program requires one megabyte of RAM and an 800K disk drive. It will cost $395, and will be available to *Jazz* owners for a $95 upgrade fee. Lotus, 617/577-8500.

Microsoft, Ashton-Tate, And Sybase Join Forces To Create SQL Server For OS/2

In a major move to counter the effects of IBM's OS/2 Extended Edition on PC manufacturers, Microsoft and Ashton-Tate will sell an OS/2 data base management system that allows personal computers to access data on other PCs, as well as on minicomputers and mainframes. The software, called *SQL Server*, will be marketed to end users by Ashton-Tate and sold to hardware manufacturers by Microsoft; it will not be available for at least six months. The technology behind the software was developed by Sybase in Berkeley, California.

SQL Server allows data to be accessed in a standard fashion anywhere on the network. SQL is a standard for requesting data; thus, an SQL server is a system that can respond to SQL-formatted requests for data. IBM has been pushing the SQL language standard for many years, and many database manufacturers have responded by making their products compatible with SQL.

The package will be used as a software platform for other vendors. Ashton-Tate has already stated that it will come out with a version of the popular *dBASE* program that can talk with the *SQL Server* platform. This means that most current *dBASE* programs will work properly in the new networked environment. Other software vendors, such as Borland and Blyth, said that they will support the platform as well.

The program will cost between $1500 and

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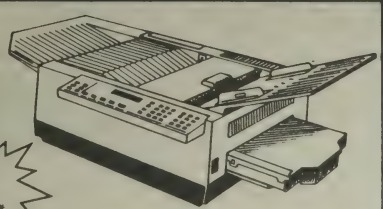

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$3000, according to Ashton-Tate. In order to run *SQL Server*, the network will also have to run Microsoft's OS/2 LAN Manager or IBM's OS/2 LAN Server. Thus, the entire system will be very expensive and will probably be used mostly in corporate data environments. Many networked data base management systems that run under MS-DOS cost significantly less than *SQL Server*. Microsoft, 206/882-8080; Ashton-Tate, 213/329-8000.

Berkeley Softworks Will Release GEOS On Apple II

The popular GEOS operating system for the Commodore 64 and 128 will soon be available for the Apple II, according to its manufacturer, Berkeley Softworks. The operating system has many of the best features of the Macintosh, such as icons and windows, and allows other developers to create advanced programs easily. With an installed base of over four million Apple IIs, Berkeley Softworks expects to make a significant market penetration. GEOS for the Apple II will also support links to GEOS for the Commodore machines, as well as support other Apple hardware such as high-quality printing on the LaserWriter. Berkeley Softworks, 415/644-0883.

There's No More Britton Or Lee At Britton Lee

The founders of database company Britton Lee, David Britton and Geoffrey Lee, resigned last month to begin another firm. The two founders retain 15% of the company's stock, but hold no management positions or seats on the board of directors. Their new firm will specialize in software for personal computers. At the same time, Britton Lee laid off about 20% of its staff due to recent losses. The new president and chief executive officer, John Cavalier, said that the losses led the company to try to cut $5 million from its operating costs.

Japanese Companies Announce New 32-Bit CPU

Fujitsu, Hitachi, and Mitsubishi jointly announced the availability of a new 32-bit microprocessor to be used in engineering and manufacturing workstations. The chip, called the G Micro 200, is already compatible with UNIX, and runs at 6 million instructions per second. The chips are a product of Japan's TRON real-time operating system nucleus, and will be especially useful in high-end engineering and robot-control systems. Since Intel and Motorola already control the vast majority of the high-end CPU market, the Japanese companies may have a hard time making inroads in the the American market. However, the chips might be attractive in areas where the American chips have traditionally been weak, such as Europe and Asia. With the right software, they also could sell well in the growing factory automation market where real-time control is important.

Microsoft Word Now Available Under XENIX

With the XENIX market growing rapidly, especially in the government market, Microsoft has begun making its most popular MS-DOS applications available for XENIX (XENIX is Microsoft's implementation of UNIX). They recently announced that Microsoft *Word*, one of the most popular word processing products on the PC, has been ported to XENIX. The XENIX version of *Word* has all the features of MS-DOS *Word* version 3, including style sheets and outlining. The program costs $595. Microsoft, 206/882-8080.

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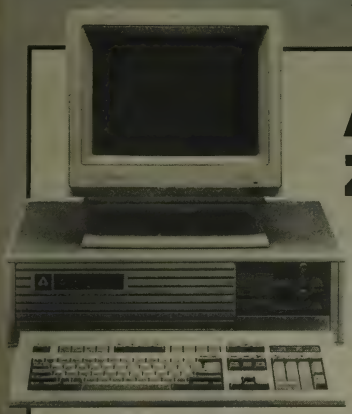

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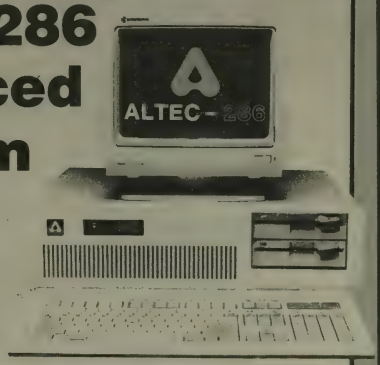

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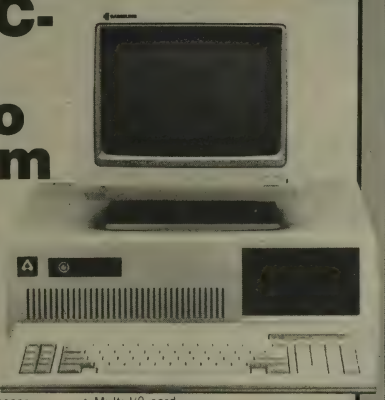

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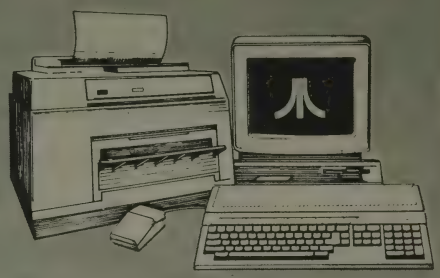

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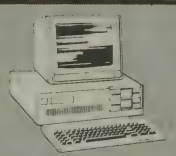

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REVIEWS

MUSIC SOFTWARE

Jam Session

By: *Brøderbund Software*
For: *Macintosh with at least 512K of memory. A second disk drive and external amplification are optional.*
List Price: *$49.95*
Reviewed By: *Robert Beauchamp*

A lot of people never take up music because it's simply too intimidating to put in the hard work and acquire the skill necessary to master an instrument. Even if you do master that instrument, who are you going to jam with? When was the last time you sat down with the gang from the brass section of the high school orchestra and really let that French horn wail?

Brøderbund Software has just released a product for those who like music, and like to make music, but just haven't been able to. *Jam Session* requires absolutely no prior knowledge of music, yet in seconds the user can be improvising riffs along with a smokey coffeehouse jazz combo or wailing on electric guitars complete with distortion and feedback.

And it's a blast.

Everybody says the best thing about *Jam Session* is that you can't make a mistake. Every key on the keyboard plays a note or a sound effect in perfect tune to the background music. But what's really the best thing is that the user can enjoy music and be part of the creative process — and still have an unadulterated good time.

Jam Session is one of those programs that makes people drop their jaws in amazement. They just can't believe what they see. On the screen is a group of musicians "playing." When you push one of the fiddle buttons, the fiddle player moves the bow across the strings. The tunes you play along with are fun, catchy and upbeat. People can't resist it.

Jam Session consists of 19 original instrumental songs ranging from classical piano music, to reggae to techno-pop. Each song features one of four "bands," a classical pianist with a snoozing audience, a heavy metal group *a la* Van Halen, a laid back rock band, a jazz combo and a country band complete with barn, haystack and clucking chickens.

Although you don't need any musical training to play *Jam Session*, it has certain features that will appeal to those who do. It comes with a built in synthesizer and the ability to edit riffs. You can also chose to show a piano keyboard at the bottom of the screen, letting you know what notes you are playing.

There are a number of recording features that let you keep your creations for posterity. You can record onto disk as well as onto a tape recorder. Your creations can then be made into "records." This way you can take them to a friend's house and play them on a Mac without *Jam Session*.

If you're not satisfied with the sound coming directly out of your Mac you can easily hook the Mac up to a stereo or speaker through the 1/8" sound plug. If you're at work and don't wan't to get caught, or disturb your fellow workers, headphones do just fine.

Jam Session is certainly not a serious music program. This does not mean, however, that it isn't good. It displays a sense of humor and musical taste and an inspired ease of use that make it great fun for anyone.

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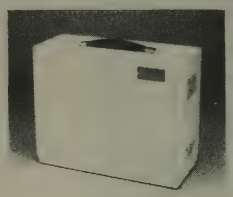

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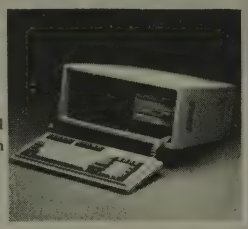

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Reviewed by: *Fred Blechman*
By: *Aubrey Pilgram*
Published by: *TAB Books, Blue Ridge Summit, PA 17214*
List Price: *$14.95*

I don't often review books. I buy a lot of books, but I'm usually disappointed. They almost always promise more than they deliver. The back-cover and fly-leaf copy writers are masters at making a prospective buyer believe they could not possible live without this book.

Thus seduced into the purchase, I usually find the book is either so basic that it tells me nothing new; or so complex I'm immediately lost.

Build Your Own IBM Compatible And Save A Bundle is different. It delivers more than it promises. This does not mean it's perfect, or has everything you might want to know, but it is a big step forward in parting the sea of confusion surrounding the IBM PC and its compatibles.

This 208-page softcover book is by Aubrey Pilgrim, who has assembled three computers for his own use. But the book goes well beyond what the title implies. It not only tells you how to put together both an IBM PC XT and AT compatible, it also includes lots of other information for a new user—all written with a minimum of computer jargon. Despite this, there are enough detailed photos, drawings and tables to make this a useful reference book.

The IBM PC compatible you'll assemble using this book will fill your word processing, spreadsheet, database, games, graphics, educational and other application needs. You won't have to build the actual boards or do any soldering at all.

Following Pilgrim's guidance, you'll select from the bewildering array of needed components and peripherals — case, disk drives, motherboard, other boards, power supply, keyboard, printer, and monitor — from various sources. You can add a hard disk, tape backup, or other accessories to your shopping list. Then, by connecting all the parts (with screwdrivers and pliers) you'll have your own customized computer. Very little technical expertise is needed.

Pilgrim walks you through each step of the assembly process, revealing many hands-on tips and techniques he has learned, and he explains them in plain language.

But Pilgrim goes considerably beyond the actual assembly. Separate chapters are devoted to describing the main elements of an IBM PC including, motherboards and plug-in boards, keyboards and other inputs, power supplies, drives, disks and diskettes. He also discusses memory and multifunction boards, monitors, printers, modems and troubleshooting. There is even a separate chapter devoted to how to upgrade an old PC to the present XT design.

But now that you have the computer built, what can you do with it? An excellent chapter is devoted to the most useful DOS (Disk Operating System) commands. This chapter is so enlightening that it might be worth the price of the book alone. It is an excellent alternative to the thick, complex, confusing books that abound telling you all the things about DOS you'll never use!

Other chapters cover recommended software, computer furniture and supplies, manuals and documentation, along with computer swap meets and shows. There's even a six-page appendix describing 26 magazines related to microcomputing, and how to qualify for free copies. An eight-page

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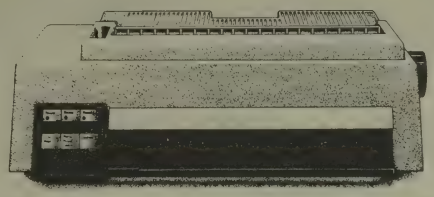

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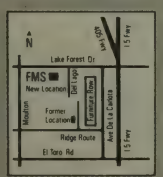

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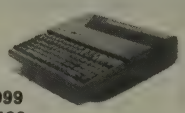

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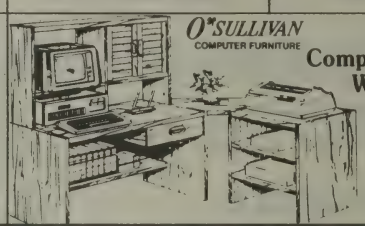

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plain-language glossary and substantial index complete the book.

Just in case I haven't made it clear, I like this book. I have an IBM PC/XT clone, but I didn't build it. Sooner or later I'm going to be making changes (I'll be adding a 3½" drive soon to keep my two 5¼" drives company), and this book will be my guide. I'm not exactly a novice (the XT is my 16th micro!), but I found reading Pilgrim's book interesting and informative. Although it lacks some details I would like to have seen all in one place (disk drive pinouts and cable connections, for example), that information is available in other books — usually buried, unfortunately, deep in incomprehensible prose. It's a pleasure to recommend this book to those who are looking for a comprehensive hands-on overview of the IBM PC world.

Build Your Own is available in bookstores or directly from author: Aubrey Pilgrim, 15663 Dodrill Dr., Hacienda Heights, CA 91745. $14.95 + $2 shipping, USA/Canada only.

MS-DOS: A Quick Program Reference Guide

Written By: *J. Schieb*
Published by: *Abacus Data-Becker*
Reviewed by: *W. A. Yacco*

I am a terrible speller. When I was in college, long, long ago, there was a book that I used to look up nearly every word I wrote. It's still on my shelf and I still use it. It's just a little book, hard bound and sturdy, so it's lasted these many years. It had to be tough because it was used a lot before there were on-line spelling checkers. Sometime's it's still more convenient than the various checkers on my machine and I continue to use it.

MS-DOS: A Quick Program Reference Guide reminds me a lot of that spelling dictionary. It has the same small format and durable construction that tells me it will stand up to work. Inside, this little book is just about as utilitarian as the other. No frills, just the low down on DOS through version 3.2.

The entries are not superficial. Looking at the entry for FDISK, as a random test, I discovered that it included succinct information on the command that would not be readily available from most single sources. For example, a note explains the relationship between FDISK and hard-disk partitions for different operating systems. The DOS manual itself does not explain this as clearly.

Next, I checked the entries for the COPY and MODE commands. There was a reason for selecting these two. Not long ago I rewrote explanations of several DOS commands for a client. They were for help screens in a commercial software product, so I know fairly well which are the most difficult to document within a limited space.

The MODE command was substantially complete. Examples were provided for setting display modes, serial-port parameters, parallel-port printer parameters and serial-to-parallel-port redirection.

COPY was nearly completely documented. A sometimes confusing point on the /A and /B switches was explained quite satisfactorily, although it could have gone further. It would have been helpful to explain the significance of the Ctrl-Z character in binary-file versus ASCII-file copy operations. The special uses of this command, such as updating a time stamp, were omitted.

This is a good, plain reference that will satisfy almost all of a user's researches. There are one or two weaknesses. It isn't easy to update; it isn't on-line. Then, again, it costs much less than software—probably less than the price of an update. It's also very convenient; there's no need to configure it, run it or add it to the AUTOEXEC.BAT file.

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DEALER INQUIRIES INVITED

Windows 3.02, Or

When Is A Presentation Manager Not OS/2?

By Robert Beauchamp

The major advantage of *Windows* from Microsoft has been its capability of running more than one program simultaneously. The ability to move quickly from one program to another, and take information from one application and put it in another, has appealed to enough people to make *Windows* a major force in the software market.

In *Windows 3.02* Microsoft has included another feature that has also become a major force in the computer world: the graphical interface.

Known as the Presentation Manager, this graphical interface is the same as that found in *Windows 386* and similar to that in Microsoft's new operating system OS/2. With the Presentation Manager, users of MS-DOS machines can experience the joy of cutting and pasting graphics into word processors, pulling down menus with a mouse and double clicking icons to make them blossom into full screen spreadsheets.

With the introduction of a graphical interface, comparisons of *Windows 3.02* with the now famous Macintosh desktop it was designed to emulate are inevitable. What has developed is an interesting situation where, with *Windows*, Microsoft is trying to corral applications into a standard interface that the Mac has so long enjoyed. The questions that *Windows 2.03* raises are these: does the Presentation Manager succeed, and how well does it work with programs that don't or won't subscribe to this interface?

Installation

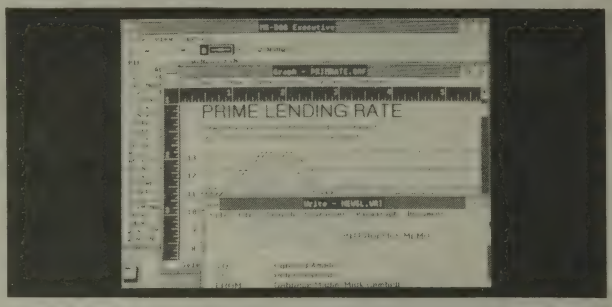
As with all new Microsoft products for the PC, setting up *Windows* is as easy as it can be. *Windows* never cops out, asking you to "please refer to your DOS manual...". With *Windows* you put the setup disk in your A: drive, and type setup. This calls up the setup program, which walks you through the process asking questions about your computer, display and printer. It then prompts you to place the appropriate disk in the drive. All you do for the most part is press return.

There are three major considerations in evaluating *Windows*. The first is its ability to run more than one application at once. The second is the handful of programs that are included in *Windows* and specifically designed to take advantage of the graphical interface. The third is all the other programs out there and what it takes for them to run successfully with *Windows*.

New Features

The same set of conditions necessary to easily run more than one application with the old *Windows* still apply with *Windows 3.02*. You need a lot of memory, at least 640K, and a hard drive. The more memory you have, the better *Windows* runs. It is also still true that the more applications you try to run at one time the slower each individual application runs. In these days of monster business applications, don't be surprised if you can't get more than two of your favorite programs to run at the same time.

However, *Windows* now supports expanded memory and extended memory. Included in *Windows 3.02* is the disk caching program *SMARTDrive*. Using this program makes *Windows* run much faster for those who are willing and able to get their machines upgraded to one megabyte of RAM and beyond.



Windows 3.02 from Microsoft employs a graphical interface that allows you to run several applications in overlapping windows. It also allows cutting and pasting of information from one application to another.

One thing that the old *Windows* didn't require that the new one does is EGA or VGA graphics capabilities. This makes sense considering the graphical interface. However, it certainly ups the ante as far as hardware purchases. If the Presentation Manager is to be the new standard, whether in *Windows 3.02*, *Windows 386* or OS/2, then expensive VGA and or EGA graphics will also be considered "standard equipment."

Another feature *Windows 3.02* offers is mouse support. While Microsoft was careful to include easy keyboard commands for all the functions of *Windows*, everything goes much more smoothly with a mouse. Graphical interfaces simply work more efficiently, completing such tasks as sizing windows and pulling down menus in a fraction of the time. An employer can easily justify the cost of a mouse by the time a worker saves not having to learn keyboard commands.

Another advantage the graphical interface provides over the old *Windows* is the ability to have overlapping windows. Rather than splitting the screen into ever-smaller spaces, the Presentation Manager provides workspaces that overlap and can be easily made into any size you wish. With one click of the mouse, a window can be made to either fill the screen, or shrink to an icon in the corner. It can also be sized by clicking on the corner or border of a window and dragging, filling as much of the screen as you desire. Windows and icons can also be moved around and placed anywhere on the screen.

Applications And Windows

Windows 3.02 comes with a variety of programs that are specifically designed to be used in the Presentation Manager. They include *Windows Write*, a word processing program, *Windows Paint*, a paint program, and seven desk accessories that include a notepad, clock, calendar, cardfile and a calculator. While using these programs you realize that *Microsoft Windows 3.02* is more than just a tool to run more than one application simultaneously, it is a new way of looking at your MS-DOS machine.

Windows Write is a graphically based word processor that lets the PC user cut and paste graphics into a *Windows Write* document, display different type styles and sizes on the screen, and select sections of text and move them around the document with a mouse. As far as its word processing abilities, it is simple and stripped of any of the more involved features one would expect of a *Word* or *MultiMate*. It is especially useful for writing short documents or fliers that require graphics. It is also useful to those who have no desire to learn a complex word processor and can do without advanced features such as mailmerge or spelling checkers.

Windows Paint is also a stripped-down version of its more complex cousins. Its tools include the requisite paint brush, pencil, eraser, spray paint, line and shape tools, and patterns. It also includes a few features only found in high-end illustrators, such as a curve tool and a three dimensional object tool. It does not, however, include color like many other paint programs for the PC.

What makes the Presentation Manager work its magic is the feature known as the clipboard. When you cut a graphic from *Paint*, or a paragraph from *Write* it is stored in the clipboard. When you are in another program that features cut and paste, you can then paste the material from the clipboard onto the page. While this is old news for Macintosh users, the advantage of the Presentation Manager is that, since more than one program is running at one time, you do not have to go through the time-consuming process of exiting a program, converting the material into a different format, and then entering the new one in which you wish to paste your material. You simply move to another window and paste.

The programs provided with *Windows 3.02* work well together. Along with these applications there is also a group of programs from Microsoft that work especially well with *Windows*, most notably *Word*, *Chart* and *Excel* for the PC. Almost everyone, however, will also want to use a vast array of products that were designed without consideration of the graphical interface of *Windows* — or even designed before there was a *Windows* to consider.

Windows And "Standard" Applications

The key to using these "standard" applications, as they are called in the

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Windows documentation, is the PIF file. PIF stands for Program Information File. It exists to tell *Windows* how to run a standard application in the most efficient manner possible.

Microsoft programs such as *Word, Chart,* and *Excel* already have PIF files built into them. Extremely popular programs such as *Lotus 1-2-3, dBASE, R:BASE* and *BASIC* have PIF files provided for them in *Windows* itself. When you start one of these programs from *Windows* for the first time, *Windows* automatically puts the PIF file into the program's directory.

For those standard applications that do not have PIF files provided, you must use the PIF editor to make one. This is the most inconvenient and intimidating aspect of *Windows*.

The PIF editor asks you questions about your application that you probably never thought about. You must tell the editor the exact DOS designation of your program — i.e. MM.EXE for *MultiMate* and PVRMAIN.COM for *Patton vs. Rommel*. You must also include the subdirectory in which it is contained. The entry for *Patton vs. Rommel* would be /PVR/PVRMAIN.EXE. While this seems to be no problem for a person used to DOS, it becomes inconvenient when you have to do it for all the files with .EXE, .COM and .BAT extensions in an application. *MultiMate Advantage II* has *twelve* of them.

Another factor you have to consider is how much memory you wish to allocate to a program. The PIF editor asks you two questions in this regard, the minimum amount of RAM required to run the program and the actual amount you wish to allocate for that program. The default setting in the PIF editor in each of these categories is 52KB. If your program requires more than 52KB, then you are going to have to change these settings. If you enter 0 into the desired memory box, *Windows* will give that application all available memory. Later, when running the program, if there is not enough memory to run your application *Windows* will tell you so. You will then have to go back and close some other applications in order to free up some RAM.

Possibly the best strategy is to enter −1 into the memory desired box. This will give all RAM to your application and swap *Windows* onto the hard disk. This means, of course, that your program will not be running in a window. It is easy to get back into *Windows*, however, by pressing ALT + ESC.

It is also important to consider whether your application can run in a *Windows* window at all. Some programs must run "full screen" and are not compatible with the Presentation Manager interface. You might not feel so bad about swapping *Windows* to the hard disk if your application couldn't run in a window in the first place.

The only way you are going to be able to make all these decisions is through trial and error — adjusting memory, testing whether a program will run in a window and running applications together in different combinations to see whether there is enough memory to run them simultaneously.

The major advantage, then, of creating a PIF file for a standard application (provided you don't swap windows to the hard disk) is that you eliminate the need to exit a program before working in a new one. When you press ALT + ESC your program is shrunk to an icon on the screen, which you can call up at any time.

Remember, saying that a program will not run *in* a window is not the same thing as saying a program will not run *with Windows*. A program running "full screen" can still take advantage of *Windows*. You will still be able to cut material from an *Excel* document and paste it in a *Microsoft Word* document, even though *Excel* is running in a window and *Word* is running full screen.

One of the things that seems to be causing the most anxiety about the new Presentation Manager is the issue of what the application will look like on the screen. The Presentation Manager can't make a program look like anything it doesn't want to. It would be a matter of changing a text-based interface into a graphical one (and all those out there who have been trying to get their PCs and Macs to talk to one another know how difficult that one is.)

A program like *Windows Write* will of course have the Presentation Manager look to it. A program like *Excel* for the PC not only looks like the Presentation Manager but actually needs *Windows* to run at all. A program like *Microsoft Word* runs full screen and looks like it always did, as will any application running full screen. As a matter of fact, unless your application includes instructions for use with *Windows*, IBM *TopView* or an ANSI device driver chances are it won't run "in" a window.

Conclusions

Ever since the introduction of the Macintosh, the graphical interface has sparked excitement in the computer world. Ever since the introduction of *Windows* the dream of multitasking has also spurred development and change. It is interesting to note that Apple is trying to manage multitasking on the Mac with *MultiFinder*, which is still not as efficient as *Windows* on DOS machines. With the Presentation Manager, Microsoft is trying to add the ease of use inherent in the graphical interface to the DOS world. While *Windows 3.02* goes a long way in acheiving this, it also has a tough time meeting both goals efficiently. In the future we can expect the best of both worlds on one machine. For now, however, we'll just have to put up with a few inconveniences. □

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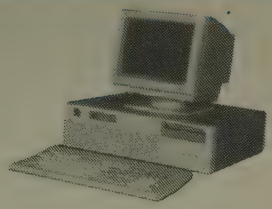

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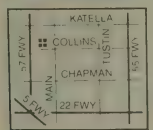

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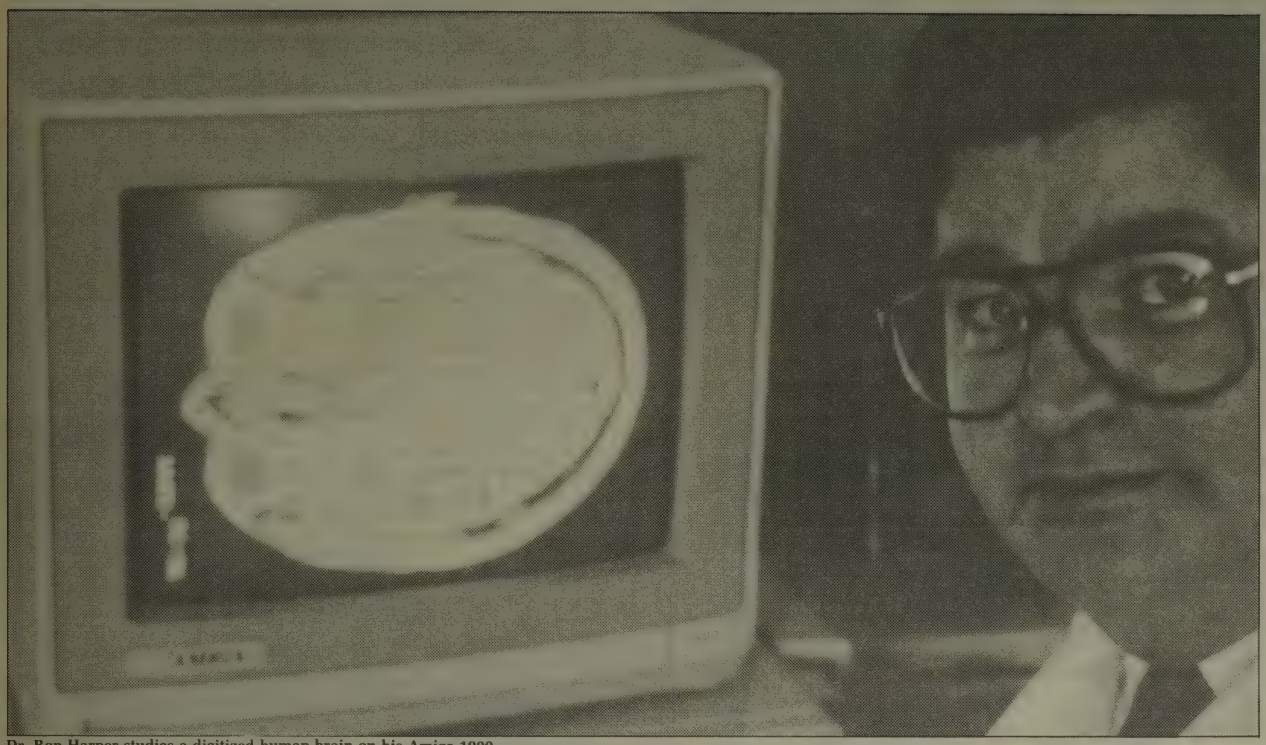

Dr. Ron Harper studies a digitized human brain on his Amiga 1000.

Brain Surgery And The Amiga

By Ben and Jean Means

Brain surgery using a $1,000 personal computer as a diagnostic tool?

According to Dr. Ron Harper, a professor of anatomy at the UCLA Medical School, one problem in brain surgery is that of precisely locating the specific areas for surgical removal. Hospitals use half-million dollar imaging machines to gather brain data, but the surgeon needs a graphics computer to study the data for better diagnosis. Harper had been using an $80,000 DEC VAX minicomputer in his UCLA Brain Imaging Research Project, but he's replacing it with...an Amiga personal computer!!

The UCLA Brain Imaging Project

The UCLA Brain Imaging Project is located in the Brain Research Institute. This large facility houses several research scientists, neurosurgeons, and a mountain of data tapes, along with a DEC VAX GPX, VAX PDP 11 mini-computers — and their proposed replacement, and Amiga 1000 and 2000 microcomputers.

The purpose of the innovative project is to research the treatment of temporal lobe epilepsy, a severe form of the disease located deep within the brain where surgery is difficult. This epilepsy may cause a variety of visceral or autonomic dysfunctions; most tragically, if left untreated, it may deteriorate into crippling, generalized seizures spread throughout the brain.

But some epilepsy can be surgically treated. If a seizure focus can be localized within a discrete brain region, then the neurosurgeon can remove that area which is the source of the seizure focus. The problem is gathering information from deep within the brain. Scientists used to place electrodes in the brain on the basis of boney skull landmarks to observe changes in electrical activity; because of individual brain structure differences, these approaches were less than adequate.

Through The Brain Darkly: The Importance Of Computer Imaging

Today's scientist uses advanced imaging equipment and less destructive brain scans, like the CAT, PET, DSA and MRI (See Brain Scan Sidebar), to pinpoint the seizure focus. Dr. Harper says, "These brain images let us know if surgery is even feasible. Over a period of time, the unaffected hemisphere may 'learn' the seizure behavior of the affected hemisphere. Once this 'mirroring' occurs, surgery may not be possible, since we can't remove that much brain tissue without disrupting other body processes.

"Early detection is so important; in the old days, our first clue was when a patient had manifested a major dysfunction. Often this was after the brain damage was already too advanced to do much for the patient. Now with early detection, we can catch these problems in time and use less invasive corrective surgery. We can just scan the area and translate the data into a computer picture of what's going on."

Before this kind of imaging became available, the margin of error was much greater, and Harper adds, "Prior to surgery, the doctors use every scrap of information they can get. The results have been much better than we would have thought possible.

"Even during surgery, a computer is valuable because you can't show rows of numbers. You need to transform the signals into something that the surgeon can glance up at and immediately know the results of what he has just done. That's best done with colors and shapes. Right now the trend is towards expensive special purpose machines. But with the right software, the Amiga can do

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UCLA's Dr. Ron Harper: "Inexpensive software and hardware enable students to use procedures they wouldn't even have seen before. With digital computer imaging, we'll be able to look at diseases in new ways. We're working with the Amiga to solve problems that were insoluble using traditional methods."

the same thing, but at a much lower cost."

This particular day, the lab is using the VAX GPX for the first time to prepare a patient for deep electrode implants; doctors and scientists are intently studying the patient's digitized brain on the large screen. But sitting directly across from the $80,000 VAX is an Amiga 1000, which may soon replace the VAX.

Harper originally chose the VAX because of its available software, but then became dissatisfied. He says, "The VAX costs $80,000, but you also have to get used to other big machine costs, like paying $700 for the reference book or $2500 for a word processor. You also get a level of support that is, in a word, poor."

Harper dreamed of having a workstation with high level imaging abilities, but with a very low cost, so that every resident, graduate student and neurosurgeon could have their own workstation. The Amiga is Harper's dream come true. He says with enthusiasm, "Inexpensive software and hardware enable students to use procedures they wouldn't even have seen before. With digital computer imaging, we'll be able to look at diseases in new ways. If you can see the brain in better detail, you get a clearer picture of how to treat it. We're working with the Amiga to solve problems that were insoluble using traditional methods."

Harper considered the Mac II but found it much more expensive than the Amiga. He also considered the $7,000 DEC workstation, but as his colleague Dr. Frysinger puts it, "With all the add-ons we need, who knows what a complete workstation would cost? That's what is so great about the Amiga — not only is the CPU cheap, but the peripherals are reasonably priced as well. You just can't beat the price of an Amiga."

The only thorns in this rosy Amiga picture of low-cost medical imaging is the need for slightly higher resolution and more bits per pixel display. The Amiga's six bit planes per pixel is adequate in applications like the PET Scan and MRI images, but 8 bit planes are necessary for x-ray use. But Harper says, "To get significantly better output, we'd need something very much more expensive, such as a Pixar rendering engine."

Medical Hardware And Software

The Amiga became much more viable as an imaging computer with the addition of the Ameristar Board, which gives NFS Ethernet networking. Ethernet allows access into different medical databases, imaging devices, and other coprocessors. For example, many of the expensive Magnetic Resonance machines Harper uses have Ethernet connections, so he can readily transfer the image to the Amiga. The typical Magnetic Resonance Images are 512 x 512 pixels, which the Amiga can readily handle. He adds, "The cost of the Ameristar board ($700) is trivial when you consider that you can instantly transfer information from a half-million dollar computer into the Amiga."

Next to the Amiga 1000 is a bulging case of the latest software disks that rival the contents of any software store. Out of a dazzling array of graphics tools, Harper primarily uses *Deluxe Paint II* as his paint program, *DigiView* to digitize images, an Easyl graphics tablet for cleaning up slides, and Imprint to output slides to take to conferences. He also found a public domain edge detection program and Fourier transform program on a public BBS; with this free software, he can now advise students how to clean up pictures with edge detection, high frequency or low pass filtering. The Amiga has all the tools Harper needs to reproduce beautiful digital slices of the brain.

But our brains exist in more than two dimensions, and Harper is searching for a way to display the third dimension. The 3-D modeling program, *Forms In Flight*, impressed him greatly. "For $79, it's ridiculous. I saw a demo and ran right up and bought it. It's astonishing that these things are being done on micros," adds Harper, who is now eager to try Aegis' *VideoScape 3-D* and Byte by Byte's *Sculpt 3-D*.

The brain imaging lab is still in development; they don't have the Ameristar boards to construct their instrumentation. Another promising hardware add-on is the Mimetics frame buffer, ReaSyn ($699), for grabbing images from videotape; this yet-to-be-released board works in real

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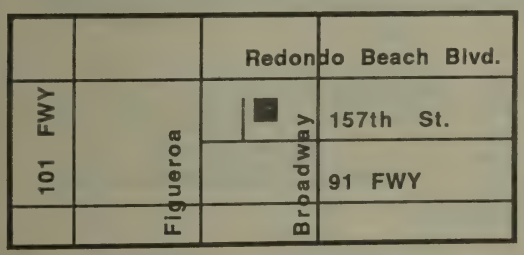

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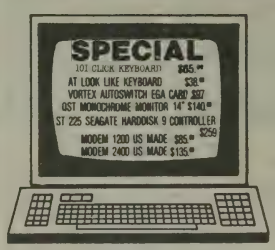
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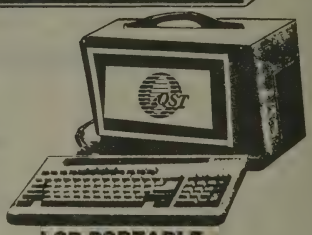

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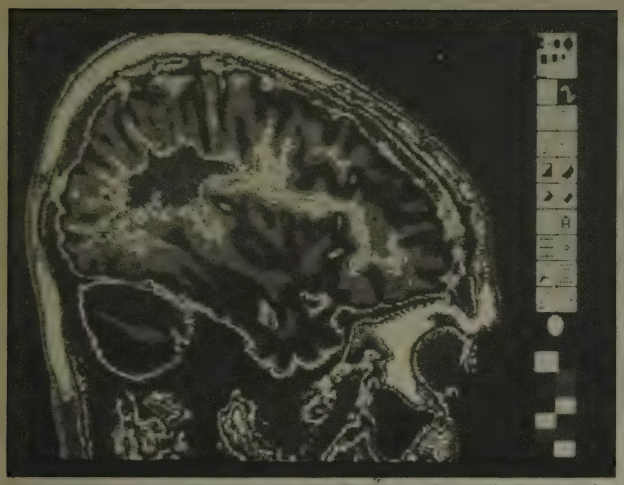

Harper digitizes images of the brain using DigiView and enhances the images with Deluxe Paint to bring out greater detail for study.

Harper: "Even during surgery, you need something that the surgeon can glance up at and immediately know the results of what he has just done. That's best done with colors and shapes. With the right software, the Amiga can do the same thing, but at a much lower cost than special-purpose machines. But with the right software, the Amiga can do the same thing, but at a much lower cost."

time and will offer 24 bit color for an astounding on-screen display of 16 million colors in a 1024 by 1024 pixel display. Harper also plans to add a 68020/68881 accelerator board for added coprocessing speed.

Harper's major software tool is JForth, which is essential for rewriting programs from the VAX PDP11 onto the Amiga. He explains, "The file structures are different, so transferring things to the Amiga will take some work; but it's worth it. The Amiga is blazingly fast; some applications run up to eight times faster on the Amiga than they did on the PDP 11. Having a programming tool like JForth makes the Amiga viable for us."

Besides this plentiful arsenal of software tools, a Harperlab researcher is developing software for data acquisition of cardiac, lung and brain activity for automatic recording on a hard disk. Then the data can be processed after the fact to get a better visualisation for diagnosis.

Amiga: The Cost-Effective Solution

Harper and his colleagues have been using the PDP 11 to decode the unsolved puzzle of Sudden Infant Death Syndrome, but are switching the research onto the Amiga. A London university took vital sign readings on 7,000 infants in London, 16 of whom died later; Harper received a mountain of tapes on the 16, along with some healthy controls for analysis on the PDP 11. But the PDP 11 has only 64K of RAM, while the Amiga offers nine megs of RAM and a memory expansion of up to four gigabytes with a 68020 chip. The PDP 11 is expensive, with a cost of $2400 for the graphics card plus $600 for the monitor. The PDP 11 has 16 colors in a 512 x 512 pixel display with no blitter chip, and Harper maintains, "The Amiga has virtually the same res for a fraction of the cost.

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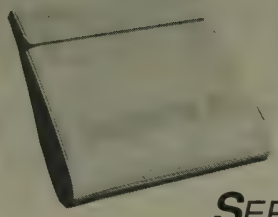

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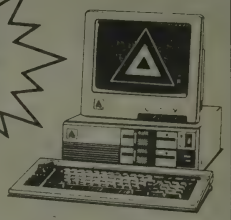

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Amiga As A Teaching Tool

Dr. Robert Trelease is designing a series of anatomy teaching demos on the UCLA Anatomy Department's newly purchased Amiga and Digi-View add-on. Sometimes, a bare slide isn't enough for presentation graphics; with *Deluxe Paint II*, a professor can shade or circle a portion of an anatomical area to point out any areas of interest to his students. Three dimensional animation packages will show things like muscle motion or limb motion, and Harper asserts, "There are some muscles whose motion is very hard to explain with words, and still images just don't hack it. What you'd like to do is show the muscle and limb moving together, or two muscles working in opposition. Three dimensional animation is perfect for this."

Besides teaching anatomy, the Amiga is useful in teaching developmental biology. Harper adds, "If we want to show fetal or cardiac development, the Amiga is a natural choice. And at $750 for each color animation machine, it is very attractive."

Conclusions

In this time of decreasing resources and rising costs, color computers like the Amiga are adding greatly to our store of medical knowledge. Physicians can make better diagnoses on cheaper diagnostic tools to enhance the quality of our life; low-cost Amiga workstations will expose medical students to aspects of physiology that just weren't available using traditional teaching methods. In the words of Dr. Harper, "It's not just evolutionary; it's revolutionary. As a very low cost workstation, the Amiga offers a real bargain. There are still a couple of bargains left in the world. One is a medical school education at UCLA; the second is an Amiga. It truly is a phenomenal bargain."

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Brain Imaging Techniques

In the not too distant past, medical science relied on deep implant electrodes, which destroyed irreplaceable brain tissue, and the traditional CAT scan. But according to Harper, the CAT scan, which x-rays the bony structure, is on the way out; he adds, "They're very good for showing bony structures, but you're running against the clock since the patient can only take so much x-ray bombardment before you start to worry about radiation overdose. The tradeoff is how much the CAT scan will show versus how much radiation the patient will receive."

But the new Magnetic Resonance Imaging technique (MRI) is very valuable because the patient is only subjected to magnetic fields, instead of ionizing radiation. With MRI, the doctor can see the soft tissues; for example, with a tumor, the doctor can see the displacement of the surrounding tissues and the built-up fluids. Physicians previously worked with much more invasive techniques, and Harper adds, "We used to have to fill the ventricles with contrast medium to see the spaces in the brain. Now with MRI, that's not necessary anymore."

In Digital Subtractive Angiography (DSA), the arterial vessels are filled with a radioactive contrast medium to show the vasculature of the brain in x-rays. This information is vital in placing electrodes without hitting bloodvessels.

The Positron Emission Tomography (PET) Scan shows brain activity by observing the uptake of radioactive glucose. Radiologists inject a small amount of the glucose and take readings of the differences between the right and left lobes; then they can actually see where parts of the brain aren't working properly.

The problem for medical science has been how to overlap the various brain scans to show the vessels, the soft tissues and the bone structure in the same image. To provide reference points for the UCLA project, a Mag Res technician will shoot all these scans in the presence of a doctor while the patient is wearing a stereotaxic frame as a visual landmark to line up the different images exactly.

With the introduction of these sophisticated techniques, the future looks very bright for medical imaging of all kinds, and the advantage of using a microcomputer is the ability to layer a number of different scans that each show different brain characteristics. Thus, a DSA, PET, MRI and CAT can all be combined into one image or can be shown side by side to display more than any one of them would show separately.

These computer pictures currently take the form of two dimensional slices through different levels of the brain, but Dr. Zhang, the first neuroscience student from mainland China and considered a brilliant scientist by his colleagues, is working on assembling a full three dimensional reconstruction of the brain. A doctor will then be able to take a "Fantastic Voyage" through the brain on his Amiga to visualize exactly how dysfunctions are occurring and how to treat them.

— Ben and Jean Means

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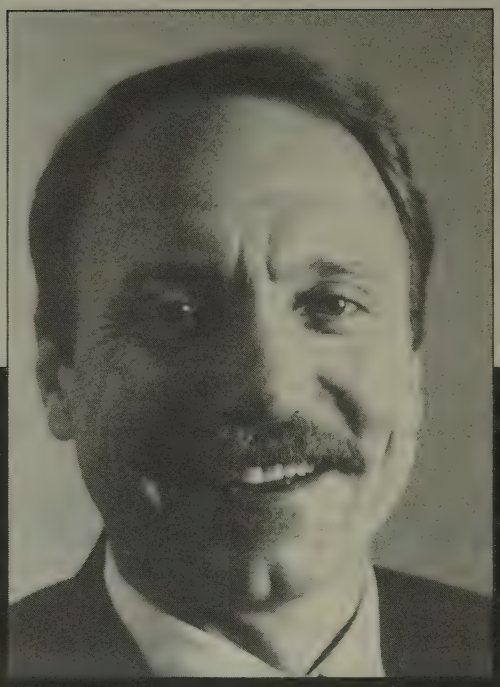

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Mark Hoffman, president of Sybase, Inc.: "I don't look at automation as being bad. I think it may actually help people understand and comprehend massive changes that are happening in the marketplace. It's what we've always been trying to do with the PC, and I think continued automation, and particularly the idea of a client-server architecture, really allows that to happen. It allows this individual out there to have a lot more power than he's ever had before."

Connectivity Solutions In Data Base Management

By Mary Eisenhart

Unless you happen to work in a Fortune 500 company, or perhaps a government agency or a large financial institution, chances are you've never heard of Sybase, Inc. or its relational database product *SYBASE*. Since it shipped its first product in 1986, Sybase has operated primarily in the environment of DEC supermini VAX computers and bit-mapped workstations operating in networks, and has targeted the power-hungry online (as contrasted to decision support) applications as its chosen market.

However, connectivity being the rallying cry of the micro world these days, Sybase is emerging as a vital component in the strategies of several microcomputer-oriented movers and shakers, notably Apple Computer, Microsoft and Ashton-Tate.

Late last year, Apple announced that it was making a major equity investment in the Berkeley-based Sybase. While the contract defining the relationship between the two companies has yet to emerge in final form, the investment has already been made, putting Apple in the company of venture capitalists like Hambrecht & Quist and Kleiner Perkins Caufield & Byers in underwriting Sybase's development efforts. Connectivity being a major part of Apple's strategy to gain market share in the corporate environment, Sybase, with strong presence in both the DEC/VMS and the UNIX marketplaces, seemed a likely ally to many observers.

Then, on January 13 of this year, Microsoft made a public announcement of a long-term strategic alliance with Sybase which had begun in 1986, under which Sybase would license its SQL-based (Structured Query Language — an emerging standard in relational data base management) relational database technology to Microsoft for use in OS/2-based networks. In addition, Microsoft announced that it would license SQL Server on an OEM basis to hardware manufacturers.

At the same time, Ashton-Tate joined Microsoft in announcing SQL Server, an implementation of Sybase technology for DOS and OS/2 worksta-

BASE

tions, to be marketed by Ashton-Tate as Ashton-Tate/Microsoft SQL Server, by itself and in conjunction with future versions of *dBASE*. (The product, will be sold through the retail channel, a departure from Sybase's usual direct-sales approach, and supported by both Ashton-Tate and Sybase. Its price hasn't been announced yet, but is likely to be considerably higher than that of *dBASE* itself.)

With alliances like this added to its entrenched position in the corporate/government world, Sybase seems poised to become a major standard in connectivity.

Founded in 1984, Sybase was the brainchild of several executives at Britton Lee, a company that specializes to this day in dedicated data processing machines. Sybase president Mark Hoffman was Britton Lee's vice president of operations, and executive vice president Robert Epstein was chief architect of Britton Lee's IDM (Intelligent Database Machine), after managing the INGRES (a pioneering relational database) project at UC Berkeley. They perceived a need for the flexibility of software-based relational databases in online applications, which are characterized by the presence of dozens (or even hundreds) of users and applications accessing a large (hundreds of megabytes to multiple gigabytes) database. These high-volume applications are characterized by a need for constant updates, data integrity, security, and system availability — shutting down the system for backups, for instance, is simply a non-option.

Sybase's products — the DataServer and the DataToolset — incorporate revolutionary design features to address these needs, based on a concept called client-server architecture. The Data Server handles back-end functions of data management and integrity; the Data Toolset is a set of window-based tools for creating applications to run on either character-based or bit-mapped terminals. Sybase has been relatively selective in choosing the machines it supports (DEC under VMS, Sun workstations under UNIX, and Pyramid computers running OSx), focusing on the prevalent environments used in online applications. The company's strategy also includes connecting with IBM mainframes and minis, as well as the DOS, OS/2, and Macintosh systems.

In providing a powerful relational database based on SQL, Sybase offers the application developer a standard-based migration path. Having been endorsed by IBM, SQL is rapidly becoming an industry standard across machine lines from mainframe to micro; using Sybase's SQL-based tools, a developer could create an application for his client's currently PC-LAN-based office — in *dBASE*, for instance — and be able to transport the application to larger machines as the client's needs increased. Further, this could be accomplished transparently to the users, without burdening them with having to learning new tools and interfaces.

Interviewed at Sybase's Berkeley headquarters (the company also has numerous sales offices nationwide as well as an office in London), president Mark Hoffman offered some insights on Sybase's products and strategies, as well as their likely impact on the world of ever-more-powerful microcomputers.

Since many of Sybase's key people came from Britton Lee, can you give us some background on what Britton Lee did and how that evolved into Sybase?

Bob [Epstein] had gone to Britton Lee back in '79. He came out of the university where he worked on INGRES in the academic environment. He was brought in as the chief architect of the Britton Lee IDM.

IDM?

Intelligent Database Machine. The idea was that they wanted to download information off of bigger systems and do all of the data management functions on separate specialized hardware, which would mean that the cycles for the bigger machine would be freed up to go out and do front-end applications and that type of thing.

I think that was the first creation of the database machine. The power of that was that you could either buy smaller front ends, or you could get more people on front ends and get more cycles out of that machine, and all of the database work would be done on this back-end machine.

The problem was that it was a unique piece of hardware. You connected to a DEC or an IBM, but the database machine itself was Britton Lee, so when you went to bring that into a corporate MIS application, the guy in the computer world would choke. "Not IBM? Not DEC?" But in a lot of cases it was the only way he could solve his problem. So Britton Lee grew to a $31 million company, they did very well. It was a good idea, it was the start of our idea, I guess. They were relational, and it turned out to be a good system and got significant penetration initially.

The evolution of Sybase from that was that Bob and I decided that, in the future, what people wanted was the same type of performance of the Britton Lee IDM, but you really wanted to have that kind of performance on general-purpose hardware.

So we went off and started to look at what the computing environment would look like in 1991-92. We said, okay, we need the performance of the Britton Lee IDM, plus we need other characteristics that the online marketplace is used to, like continuous operation. That's the kind of system that we have to build.

Plus we said that in the future, looking forward five years, most of the applications would be built on extremely powerful workstations connected to networks talking to services off that network, and one of those services would be a database. And in that environment, you had to have a very clean separation between the front ends and the back

The idea of our front-end tools is to have a very open architecture. If the person likes the Ashton-Tate graphics package, he should be able to just call that package and bring it in and use that. If he likes Lotus 1-2-3 he should be able to use it.

ends. In that separation there were certain things that had to happen in the front end and the back end, and so we made a list of those and built the appropriate products to address that marketplace.

Which are?

The DataToolset is the front end product and the DataServer is the back end product. I guess the biggest thing that we did is that we realized that the business rules that had been coded into applications in the past, which took up to maybe 60% of that application, couldn't be there in the future in a distributed environment. Because as you string many, many different applications on a network, all trying to talk to and access the same data, if you don't want corrupt data you've got to take those business rules and build them into the data server itself.

Could you clarify the distinction between decision support and online applications?

Decision support is very ad-hoc intensive — long retrievals, complex retrievals. You usually have a smaller number of users, five to ten users, doing ad hoc queries. The databases are usually smaller because a lot of times what you've done is taken an extract from a larger machine to put onto a machine just to analyze that data.

And also the integrity requirements are very simple, because you're doing retrievals, not updates, so you don't have to worry about corrupting the data.

That contrasts with the online segment, where it's very update intensive. You may have hundreds of users hanging off of a network, all wanting access to the data or doing updates at the same time. Databases tend to be much bigger in that environment, from hundred-megabyte to gigabyte databases.

The integrity becomes very complex, because now you have many different applications all going after that same data, and manipulating it, so it's like the maintenance person's nightmare. That's why it's so important to have the integrity brought back into the database level.

That's done by assigning different permissions to different users?

That's one level of the integrity, but the other level is the ability to actually code business rules into the database itself. What that means is that — say you're doing a automatic teller transaction. You're doing a simple "I want to take out $20." And the ATM goes away and looks at it and comes back and says it's fine.

But now you've got all these ATMs all over the country that want to have access to this common data. So what happens if that person's out of cash? What do you do in that case? So somebody comes with this great idea of a VISA card and says, "Now you want to build in this rule that says, gee, if this person doesn't have cash in his account but he has a VISA card, then go ahead and issue him the cash and charge it against his VISA card." You can take that whole rule and put it into the data server itself, which the ATMs are talking to.

In a normal situation, without integrity in the database, the ATM would have to have that logic stored in it, and then every ATM or every access to that data would have to have that same logic in it. So if you ever wanted to change it to say something else — "now let's see if he has a VISA card *and* a MasterCard" — you have to go back and change each one. What we're saying is, take that same logic, put it into the database itself, so that if you ever want to change that logic you go to one place and make the change there, and it's effective immediately to everything that's trying to access that data.

Because a networking environment is much more complex, as you start to tie together all these PCs.

In a microcomputer-based setting, is it more typical for users to take the data from a server, manipulate it on the PC, and then send it back to the server, or is it more a process of constant interaction?

It depends on what they're doing. You may simply bring data up to the microcomputer, and you may work with that set of data for a long period of time before you get to another transaction with the server. I think the interaction with the server is fairly short, fast transactions, and more manipulation going on back here.

What's the relation between SQL-Server and Sybase's Data Server?

They will be compatible products. They'll be identical in the kernel, the basic product. The sense that you have different operating system issues, and different networking issues, is really the only differentiation.

SQL-Server is a much more powerful and expensive product than dBASE itself. Who among the people who are using dBASE or working with it as a development platform is a likely candidate for SQL-Server?

I think people that have programmed in *dBASE* and find that their application's running out of power, and they want to move on to something else but don't want to totally rewrite the application. They want to preserve their investment in *dBASE* and want the additional power of the SQL-Server.

You can do all this in a micro-only environment?

Sure.

How powerful would the micros have to be to meaningfully run this?

On the server side you really need the PS/2. You need something with two megabytes of memory and running the 386. The front end, you can use DOS and 286es.

What about on the Macintosh end? Are you going to have an A/UX version of the server?

The real problem with Apple, even for this interview, is that the contract has not been signed with Apple. The equity investment has been made, but the details of exactly what systems, what networks we will support — we're still trying to get that closed down.

I have the impression, particularly in the wake of the DEC announcement, that they'd be more interested in VMS connectivity than UNIX.

Well, we also didn't know about that [the DEC announcement]. What we talked about at the time of the investment was just that we both shared the same vision of the future, and we weren't specific about talking about anything like VMS and what we would connect to, or even if we'd run under UNIX or the Apple operating system. All of those were vague. (laughs)

More or less a commitment to the workgroup idea of individuals working on projects in groups?

That's the idea of the SQL-Server; you really have department-level people able to interact, from the PC level now.

What's the importance of SQL?

I think the importance of SQL is that IBM is establishing it as a standard, and it's now become the standard in the industry. So anybody that doesn't have SQL, they're not going to have a relational database, or they will not survive in the future. You *have* to endorse SQL. That's why it's so critical to us.

But if you look at the vendors who endorse it — Oracle supports SQL, RTI (Relational Technology, Inc., which markets INGRES) now supports it, Informix supports SQL. And then there's the older-line vendors, that used to be in the database area, like Cullinet, Applied Data, Syncom. They were not relational databases, nor did they support SQL. They have now announced that they're moving to supporting SQL. If they don't they're going to disappear totally.

The difference is really — again, you go back to this. Oracle and RTI are relational and SQL, but they don't have enough power, they don't have enough features to play in the online segment of the marketplace. They do have certain lighter online applications that they're able to support, but once you get into the mainline online applications, or the heavier online applications, you won't see any of the INGRES or Oracle product.

From the practical standpoint of the client who's got to get a job done, and the users who are doing it, what are the advantages of SQL versus non-SQL?

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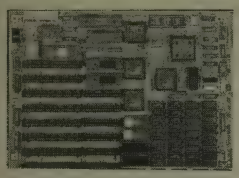

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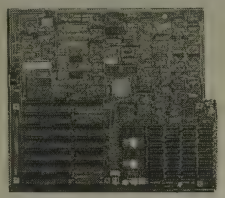

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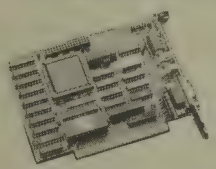

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The strongest idea for the application developer, if he uses SQL as the common language, is that he can preserve his investment in applications. So if he wants to change the engine somewhere along the line, he can either move up to the next higher platform or go to a totally different environment. So in the heterogeneous environment that people are moving to more and more, where they have mixed machines doing different applications and you want to move applications between those machines, SQL is a good way to do it.

The power to the end user in the micro world, as I see it, is the ability to build stronger and stronger applications. Having this common language to preserve — everybody's application grows once they build it, and you always underestimate where it's going to end up, so it outgrows the machine and you have to rewrite it, which means more capital investment. Now you're starting to be provided with a migration path to more powerful machines.

The other thing I think it's going to do — if you have the SQL Server as a standard on the back end, it's going to focus people on building better and better front end tools, which in the long run will lead to people being able to build applications in a much simpler fashion. I believe that the competition in the future will center around the tools, not so much around the back end. You're going to have all the big players — Lotus, Ashton-Tate, Microsoft — developing really fantastic end-user front-end tools to build applications with. Apple and its object-oriented programming — we'll probably start to see some of it this year, more of it in '89, and by 1990 you'll have incredibly powerful tools out there. But the reason you'll have those powerful tools is that you'll have the SQL Server.

So in a sense maybe you've come around full circle to the Britton Lee idea of offloading this front end processor to do the real work it's supposed to be doing.

Apple's investment in Sybase makes sense in the light of the DEC/Apple alliance, since you're very prominent in the DEC world, but what's behind it from your perspective?

Well, I think Apple needs to have a database — I guess I'd call it a serious database — that can handle other than smaller applications, and they didn't really have one running on the Apple [Macintosh]. They looked around at lots of technology and decided that Sybase had the best technology and that our view of future computing environments was similar.

Are they primarily interested in your front-end or back-end products?

They're interested in both, actually. They'd like to see our DataToolset, or the connections from the Macintosh to the server, or the server being a Macintosh. It [the Macintosh II] certainly is as powerful — it's a 68020, the same as the Suns, so it's got significant power.

You've been pretty selective about what machines your product runs on. What was your thinking on that?

We have a real clear vision of the online segment of the marketplace, and that's what we're going after. If you really focus on the online segment, within that there's eight to ten platforms that you have to run on to totally dominate that segment of the marketplace. So we've been real careful in the platforms we pick — how they fit into that array. If you look at our end user sales, they're VAX and Sun, but Sun only goes up to a 10 MIPS (Million Instructions Per Second) machine, so you say how do you get from 10 MIP to 100 MIP? Pyramid is a UNIX platform that takes you from 10- to 100 MIP machines in a multiuser configuration.

And then you've got the high end of the market, which is MVS and VM, the IBM mainframe systems, which we will have a solution on, not in '88 but probably in '89.

But then on the low end, given this vision of client-server architecture, you have to have the solution of personal computers and workstations connected there as the client, and that's what we really saw in the Apple and the Microsoft/Ashton-Tate end of the business.

But again, it's all focused on that segment: how do you optimize the Sybase solution in that particular segment of the marketplace?

As a totally speculative question, do you see the server as a backend for hypertext applications? HyperCard in particular, because it's got the huge installed base, but others as well.

I think that's the logical way to go. Again, if you really want to use *HyperCard* in a complex application where you have huge amounts of data, you've got to have some simple way to manipulate and organize that data. And the SQL Server is going to do that.

The SQL Server is independent of what the user sees?

Absolutely.

And it's up to the application designer to put the interface and links together and make them work smoothly?

He basically has to build his application, and his application has to talk to this piece of software we call Database Library. Once he's made that connection, his application is talking to our SQL Server. So it's a very simple connection — it's not a complex environment to work with. And with Ashton-Tate and Microsoft and Apple involved, it's going to be established as a major standard.

We're building a fourth-generation language where you will be able to build applications much in the Macintosh fashion, where you have menus and just pick and choose options in putting your application together. All programming will turn out to be where you're really not writing any more in a language like FORTRAN or COBOL, but it's more of the object-oriented idea where you're picking and choosing options. Ninety-five percent of the applications will be able to be built in that fashion. Perhaps the other 5% you'll have to go out to some programming language to do more complex things. And I believe even that is only in the short run. It's all going to happen.

Sybase front ends will run on Apple [Macintoshes], and they will run on top of OS/2 and DOS. So there is that alternative, past *dBASE* or anything else. Sybase will have its own tools out there. People that want to go across multiple platform may say "Gee, Sybase spans OS/2, spans DEC, spans Sun, spans Stratus, so if I build my application with Sybase tools, I can migrate to any of those platforms, essentially transparently." So I think we'll have our own strong set of tools out there.

But we're not going to go into word processing or graphics or any of that. The idea of our front end tools is to have a very open architecture. If the person likes the Ashton-Tate graphics package, he should be able to just call that package and bring it in and use that. If he likes *Lotus 1-2-3* he should be able to use it. So our idea is an open architecture where we provide a report writer and kind of the basic part of the platform, but for all these others we'll have this open architecture where you can go out and use all these tools, and use the one that you like to use.

I think it's a long way off, but people will really be able to describe an application from the user level, and then go back and generate the database and the application code and everything else from that level.

There was sort of a flurry of application generators in the micro world a while back, and people tended to find that they weren't nearly as toaster-like as they were supposed to be.

Well, the tools weren't there. The thing that's happened today that didn't allow you to do this a couple of years ago is workstations, 2- to probably 10 MIP workstations, sitting on desks with bit-mapped terminals and unlimited RAM and access to big disks, and available for very reasonable amounts of money, under $2–10,000. That's going to be incredible power.

What do you see as the interesting directions in the micro world?

Things like Lotus's connection to Oracle, where you now have the ability to go out and build bigger and bigger spreadsheets, more power. That's going to start to happen in every application in the micro world, particularly in the corporate environment.

In that corporate environment, where people have got all these PCs — they're really kind of halfway tied together, they're able to exchange some information from PC to PC, but it's just not efficient. Now I think you're starting to get vehicles to be very efficient in that networked environment, and one of them is the Data Server. Some of it is shared print resources — all of those things are starting to happen.

Now you've got to tie those PC spreadsheets, graphics, word processing, all into some common database. What happens when you have two or three PCs able to work on a document at the same time — people are now going to have to modify these word processing packages to work in that environment. There are some multiuser-on-a-single-PC packages, but now as you start to go to different PCs talking to some sort of a common database, how do you work in that environment?

There's no limit to the number of servers you can hang off of a single network, just as there's no limit to the number of front ends that you can hang off that network. If you look at these environments as they're starting to develop — each one of those micros could have a database on it, so you might do a lot of work just with the database that's on that particular micro. You could be working with *dBASE* just as a single-user standalone program on that system, plus you could work with *dBASE* talking to the Sybase server as a more powerful server, or to other servers hanging off of that network. And neither the front ends or the back ends are limited, so you can add pieces of that architecture as you see fit. That gives the MIS person — or the person at department level — a lot more flexibility than he's ever had.

How many users do you need on a net to take proper advantage of this? When is the Sybase server overkill?

I think it starts at two. Because if the application is the right application, money may not be the constraint. Particularly in the banking applica-

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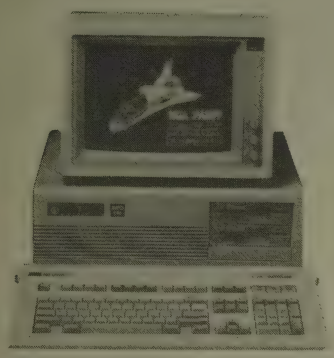

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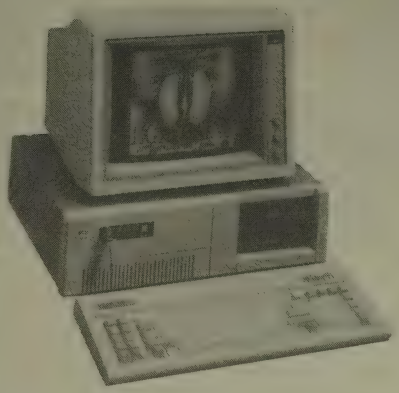

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tions, where Sun is a pretty expensive single-user platform — but if you've got an analyst sitting there who's making millions of dollars' worth of decisions and has to make them on a real-time basis, a Sun workstation is cheap. Or a $10-12,000 386 or PS/2 platform, or an expensive Sybase solution. It's probably a very good investment.

What kinds of applications is it being used in currently?

We have four segments of the market that we're targeting: financial and banking, telecommunications, manufacturing, and the government segments.

The biggest penetration that we've had to date is in the financial segments — trading applications, things where they're making decisions on loans, which in the banking industry are called platform applications. In the telecommunications area, it runs everywhere from switching situations to analyzing Yellow Pages or white pages. In the CIM area, Computer Integrated Manufacturing, it's applications such as board assembly and manufacturing and tracking, customer support tracking, and testing applications. Then there are a whole series of just general miscellaneous applications.

What's the most unusual thing SYBASE is being used for?

Kind of outside of all those target markets, it's being used at Johns Hopkins Hospital as a patient record application, where you have all of the patients' records being stored in a central location, so that a doctor goes up to a patient's room, and he could type into a terminal that's located in that area, call up the most recent patient records and be able to see what medication was given in the last couple of minutes without waiting for some sort of an update to be processed. Or if he in fact does [give] medication, he could enter something there saying "I did the following treatments," and that would be online immediately and available to everybody else in the hospital. I think that's a fairly unique application.

Let me give you a couple of other applications. Say you look it on a trading basis.

Stock trading?

Stock trading. Here's an analyst that wants to have access to all the most recent stock information — what were the last trades — and have them displayed on his screen on a real-time basis, so that if that stock changes, there's an immediate reflection on his screen. He may even be doing some analysis of that family of stock that could be immediately reflected on his screen on a real-time basis.

So it was Sybase that caused the crash, huh?

(laughs) No.

The amazing thing is that the crash really hasn't affected our sales into that marketplace. In fact I think that people have the sense that they have to have a better handle on the data. What part of the problem was with the crash, I think, is that it was so massive and so many things were going on that you couldn't get your arms around the problems. What that said is that you may not need less automation, you really need more, because the problems have become even more complex today than they were two or three years ago. There's just more data there that an analyst has to get his hands around — you can't just throw it down on the floor and make gut decisions any longer. You've got to have some way to understand the data.

I don't look at automation as being bad. I think it may actually help control — not control in the sense of control, but just helping people understand and comprehend massive changes that are happening in the marketplace. It's this whole idea of getting power back into the hands of the individual, and his ability to handle, understand, manipulate and comprehend data. It's what we've always been trying to do with the PC, and I think this continued automation, and particularly this idea of a client-server architecture, really allows that to happen. It allows this individual out there to have a lot more power than he's ever had before.

Are there any things you'd like to see the technology do that it can't yet? Any directions you'd like to see it move in?

I think the biggest direction is, again, to the front-end tools. To see dramatic productivity enhancements on the front-end tools, because that's been the bottleneck for developing applications, and I think it continues to be. So the more things we can do for productivity on the application development side, I think, the more progress we'll see in computing in general.

I think it'll happen and it'll happen fast. More importantly, too, I think that all of these things will be transportable across different environments, and that also will lead to tremendous productivity leaps.

I think, too, you can look at what people are implementing on Sun workstations today, and that's what people are going to be implementing on PCs tomorrow. And tomorrow is not very far off. (laughs) It's the end of this year. (Sybase, Inc., 2910 Seventh Street, Berkeley, CA 94710, 415/548-4500) □

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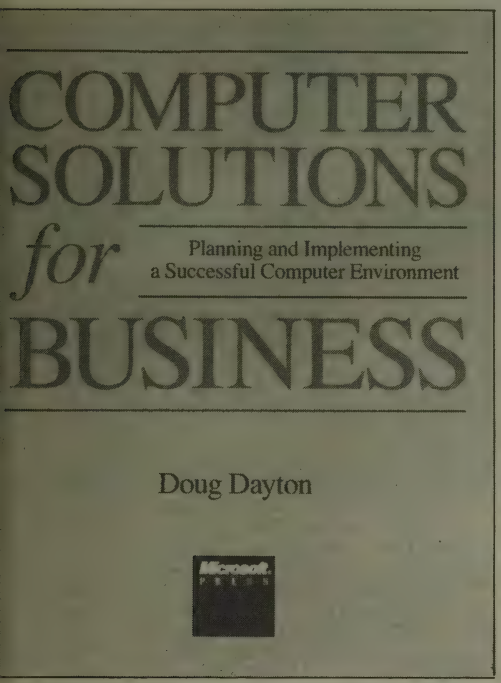

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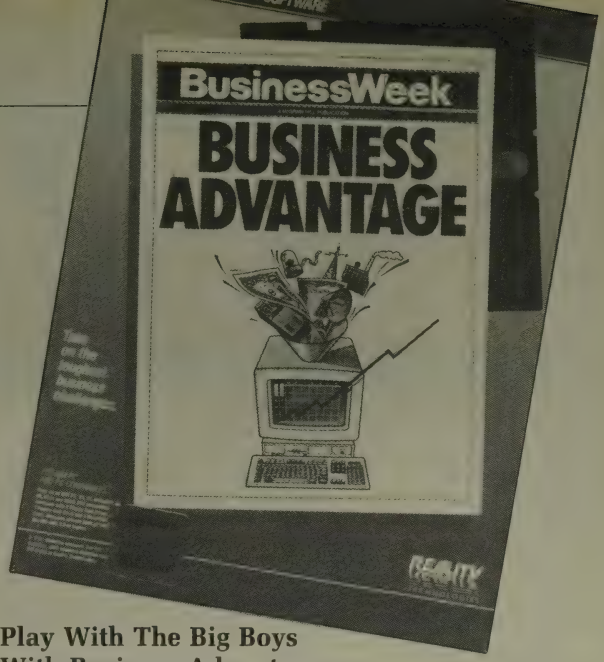
Computer Solutions For Business: Planning And Implementing A Successful Computer Environment by Doug Dayton is available from Microsoft Press. *Computer Solutions* is a guide to office automation. Written especially for the small business owner, operations specialist, office manager, purchasing agent and consultant, it is designed to help non-technical people in computer-related decisions in any small to mid-sized business. The book offers a straightforward process that readers can follow to determine their own automation needs. ($17.95) Microsoft Press, 16011 NE 36th, Box 97017 Redmond, WA 98073-9717. (206) 882-8080.



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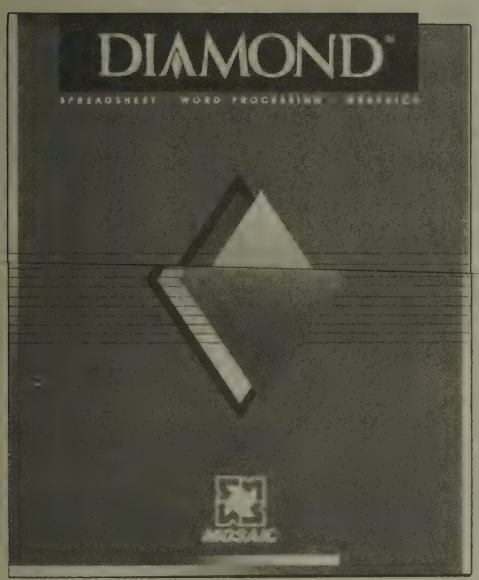
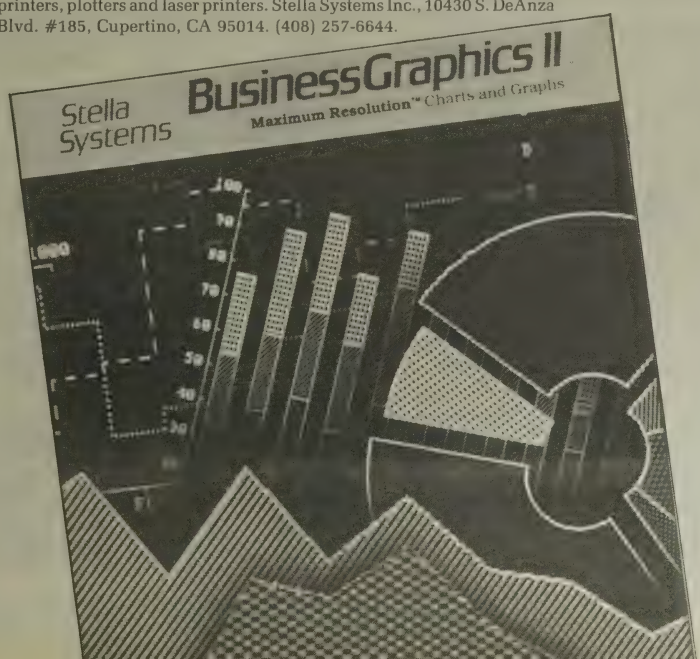


Diamond Combines Spreadsheet With Word Processing And Graphics

Diamond from Mosaic Software combines spreadsheet, word processing and graphics into an integrated application. The spreadsheet contains 8192 rows by 256 columns and is compatible with Release 2.0 of *1-2-3*. *Diamond* allows the user to take information from the spreadsheet and use it in the word processor and graphics program. The word processor includes an 80,000-word spell checker and thesaurus and uses on-screen menus similar to those of the spreadsheet. The graphics program offers easy-to-use fill-in-the-blank input forms and an extensive assortment of graph types. ($195.) Mosaic Marketing Inc., 1972 Massachusetts Ave., Cambridge, MA 02140.

BusinessGraphics II Makes Graphs Fast

BusinessGraphics II from Stella Systems contains a built in spreadsheet that allows users to enter data and data labels, press a key and create a chart. Stella Systems guarantees that you can create your first graph in five minutes or your get money back. *BusinessGraphics II* also adds enhanced graphics to spreadsheets such as *Lotus 1-2-3, Multiplan* or *SuperCalc III*. You can also build graphs from databases and word processors at maximum resolution with all leading dot matrix and color dot matrix printers, plotters and laser printers. Stella Systems Inc., 10430 S. DeAnza Blvd. #185, Cupertino, CA 95014. (408) 257-6644.



JForth:

Powerful Tool For Amiga Programmers

By Jack J. Woehr

The Amiga, the multitasking desktop dream engine, has led the way once again, with the implementation of a true 32-bit FORTH.

Back in the 1970s, Charles "Computer Cowboys" Moore designed the FORTH programming language. He did this for two reasons. One, Kitt's Peak Observatory needed a programming language that was suitable for controlling rotary motion on a tiny microcomputer, and two, "After I spilled my last rollaway tray of FORTRAN cards, I realized there had to be a better way."

The necessarily compact result was called FORTH, since the computer couldn't handle six-character names. This compactness has characterized FORTH for many people. FORTH, however is a profound and versatile language, rightly characterized as "fourth generation," since all units of FORTH grammar are true objects.

FORTH's marketplace implementation was limited until recently to 16-bit (clone-size) versions of the interpreter/compiler. The descent of the workstation-size processor MC68000 into the micro world heralded the first mass-market opportunity to expand the FORTH standard to 32-bits.

Previous Mac & Amiga FORTHs have been either "old-fashioned" 16-bit implementations treading water in the 32-bit world of the 68000 (addresses are 16-bit tokens to a lookup-table of 32-bit addresses).

JForth is a full 32-bit FORTH for the 680*0 running the AmigaDOS operating system. AmigaDOS is a full-multitasking environment with a graphic user-interface, which Commodore had up and running about two years before IBM was ready to ship OS/2, to say nothing of the "Vaporisation" Manager...

JForth has to be seen to be believed. If this professional FORTH programmer can be permitted to wax rapturous momentarily, it is a vision of the future of FORTH on the personal computer.

JForth's single-precision math is 32-bit. All stack entries are 32-bit. Addresses are 32-bit. Definitions are aligned on long-word (32-bit) boundaries. Operators are also provided for smaller storage sizes.

So why , you might ask, is he telling me all this? Isn't it obvious that a 32-bit FORTH is, well, 32-bit, so to speak?

Maybe to you, but not always has this been so obvious to everyone in the FORTH community. Lots of us "consumers" of FORTH compilers are glad that Brian Donovan, Phil Burk, Mike Haas and Jim King, the composers of JForth, got the message.

"JForth is JSR — (Jump Sub Routine)—threaded," Donovan attempts to explain. "It compiles a benchmark program like the sieve of Eratosthenes a hundred times faster than some C compilers for the Amiga. The resultant code runs at about 70% of the speed of C.

"JSR-threading eliminates layers between the programmer and the machine. It's like writing on the silicon itself."

If this FORTH programmer can wax rapturous, JForth is a vision of the future of FORTH on the personal computer.

JForth's interpretive-compiler environment awakes at the click of an icon. The distribution disks contain load files of a number of utilities, including all constants and structures necessary to access Amiga [illegible] programmer) including a full implementation of C structures, unions, etc.

JForth accepts BLOCK files with LOAD and standard ASCII text files with INCLUDE. Compiler options include optional compilation, max-inline, and others. The INLINE feature allows called routines to be compiled to a FORTH dictionary entry fully expanded, rather than as subroutine calls, further enhancing speed.

On the future of TIL's, threaded interpretive languages, of which FORTH is the most prominent example, Donovan explains, "The FORTH Standards people are meeting this year; we wanted to show them the kind of standards that were being set in the marketplace."

Haas adds, "The TIL idea is a memory-compression technique. Previously there has been a high price on FORTH in terms of execution speed. Compiling the jumps inline rather than laying down addresses and calling NEXT has sacrificed a bit of memory compression for faster execution."

Perhaps he understated the case there as regards memory vs. execution. An early landmark text on TILs, *Threaded Interpretive Languages* by R.G. Loeliger, BYTE Books, 1981, states "The core language can be contained in less than 4K bytes..." Times have changed slightly: JForth's kernel occupies 65 kilobytes. However, the advantage is that program size can be up to full memory model; in the case of an Amiga, eight megabytes! Worried individuals can relax, as many tools are provided for compilation of a minimal final image after the program has been developed in a spacious (approximately 125K) development image.

JForth comes with a large manual, containing definitions of most of the programmer-useable words in the system. It also includes:

- [illegible]
- A full explanation of how to make Amiga library calls from FORTH.
- Documentation on JForth's variable-length file interface.
- Documentation on both assemblers (yes, two 68000 assemblers are included, one FORTH-style reverse-polish, one Motorola style.)
- Documentation on graphics routines that the authors have kindly provided to make dealing with Amiga windows much less painful.
- Docs for the Floating Point Package, local variables (not always found in FORTHs!), and a 35-page tutorial on the FORTH language itself, which, combined with JForth's directness, make this package ideal for the intermediate learner.
- For the serious programmer, let us note that the index is very complete!

There are several amusing demos, complete with source. Most have to do with accessing special Amiga features, such as graphics and speech.

The most important "demo" is actually another computer language, ODE. Phil Burk supplied this object-oriented extension of FORTH on all distribution disks. He and his friends Larry Polansky and David Rosenbloom subsequently collaborated to write HMSL, Hierarchical Music Specification Language, in ODE. HMSL was shown on the second day of the prestigious FORTH Interest Group Annual Convention this year in San Jose.

Burk sends word about new utilities being written for JForth: "The latest news is that Mike has a target compiler working that analyzes compiled code, determines all subroutine calls, copies all necessary code into a separate image, does all necessary relocations, handles DEFER, copies command line into TIB for passing parameters, etc. and save a SMALL image.

"The approximately 160K demo files target compiled without modification into a 29K target. Mike has done even more optimization since. We can now make 5-10K CLI commands in JForth.

"One problem with the target compiler is that it doesn't yet handle compile time address generation, eg.

```
VARIABLE DO-SOMETHING
' DROP DO-SOMETHING !
: DOIT do-something @ execute ;
```

won't work because the target compiler, CLONE, doesn't know the contents of DO-SOMETHING are a [illegible] problem with JUMP tables built at compile, ie. ODE!! Run time initialization of a table using ' in a definition works.

"We have not set a date for release of this utility but are accepting sample applications from users who want to get a target compiled application. In return, we get to exercise CLONE.

"Mike has also put together a MODULE facility that allows delinking and relinking of include file code to avoid having all those structures laying around in the dictionary."

The FORTH community and the Amiga owner can sleep more soundly tonight, knowing that Delta Research is on the job! (Delta Research, 4054 Wilkie Way, Palo Alto, CA 94306. 415/856-3669. Two disks, 350 page manual. Call for current price.)

Jack Woehr is a FORTH programmer currently employed at Computer Resource Consultants, 2180 Bryant St. San Francisco CA 94110, (415) 641-5100. He can be reached via email: well! jax@lll-crg.arpa or on the GENIE Forth Interest Group Roundtable, GE Mail jax.

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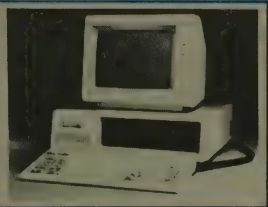

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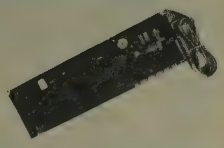

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GEM Desk Top Publisher

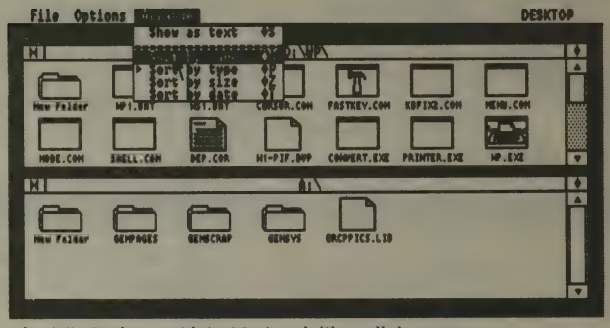
By Lenny Bailes

Long before the phrase Desk Top Publishing was invented, I was an amateur journalist. Not all people in the world who distribute their own written words are corporations with thousands of dollars to spend on equipment, but many are lovers of books and finely produced magazines. In my case, I'd been publishing science fiction fanzines since I was 17 years old, typing mimeograph stencils, cutting and pasting, electrostencilling, and occasionally pasting up copy for photo offset reduction.

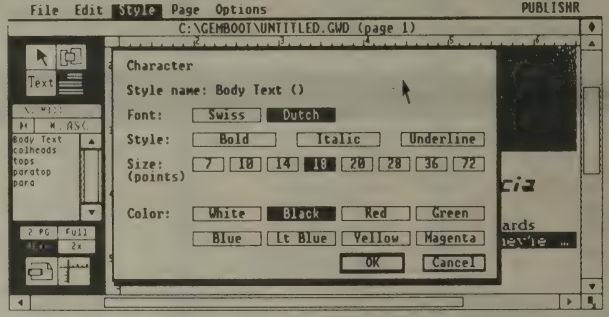
Like many others, I was introduced to personal computing by the desire for a word processor, and was told that for this an IBM machine would work fine, but if I had any plans to get arty a Macintosh was required. I would occasionally see a Mac with its screen lit up at a party or swapmeet, tentatively move the mouse around a little bit and click — but for me *using a computer* meant typing in disem-voweled acronyms at the A> prompt, as it still does for most MS-DOS users.

I was a bit scornful of the Apple Desktop metaphor because I knew I had complete control of my machine. I didn't have to look at white-gloved fingers telling me to please stand by while the computer did something unknowable. I didn't have to wade through an endless series of menus disguised to look like index cards. I could make my computer execute any list of tasks I wanted to in any order with a one keystroke batch file.

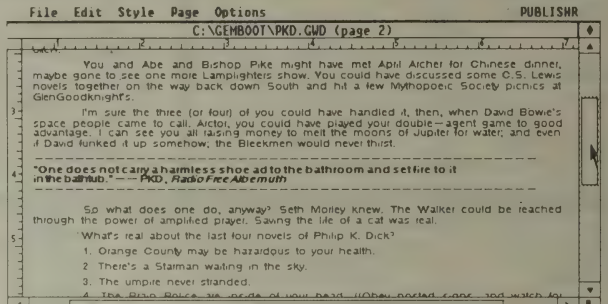
My exposure to GEM software changed my attitude about all this. The *Desktop* is a stand-alone DOS shell, which could compete with *XTree* or *1dir*, even if there were no other GEM programs to go with it. Rapid transferring of files between subdirectories, manipulation of two drives on a single screen, plus pop-up print spooler, calculator and clock — all can be accessed by pointing and clicking the mouse (or if you prefer, by two-stroke keyboard combinations). The Mac-like iconographic display can be replaced by an *MS Windows* style text display, but it runs 100% faster than *MS-Windows* does on an 8088 machine.



The GEM Desktop, with its Macintosh-like pull-down menus.



GEM DTP offers two fonts in several sizes and styles, as well as a choice of colors.


File Edit Style Page Options
PUBLISHR
C:\GEMBOOT\PKD.GWD (page 2)
You and Abe and Bishop Pike might have met April Archer for Chinese dinner, maybe gone to see one more Lamplighters show. You could have discussed some C.S. Lewis novels together on the way back down South and hit a few Mythopoeic Society picnics at GlenGoodknight's.
I'm sure the three (or four) of you could have handled it, then, when David Bowie's space people came to call. Archer, you could have played your double-agent game to good advantage. I can see you all raising money to melt the moons of Jupiter for water, and even if David funked it up somehow, the Bleekmen would never thirst.
"One does not carry a harmless shoe ad to the bathroom and set fire to it in the bathtub." — PKD, *Radio Free Albemuth*
So what does one do, anyway? Seth Morley knew. The Walker could be reached through the power of amplified prayer. Saving the life of a cat was real.
What's real about the last four novels of Philip K. Dick?
1. Orange County may be hazardous to your health.
2. There's a Starman waiting in the sky.
3. The umpire never stranded.

Rulers let you position text precisely on your page.

The GEM (for Graphic Environment Manager) interface is the base which currently supports *Ventura Publisher*, *Office Publisher* and *GEM Publisher*, as well as other graphic display programs from Digital Research, including *GEM Write*, *Paint*, *Graph*, *Draw+*, and *Wordchart*. (GEM *1stWord+*, a new word processor which incorporates graphics capabilities, is due to be shipped on December 1st.)

GEM Publisher was designed to fit into a whole series of readily usable products which complement each other in the production of Desktop documents. A user who already has *Graph*, *Draw+*, or *Paint* will reap the most benefit from it, but *Publisher* can stand alone as a useful text/graphic integrator, and the *Desktop* DOS shell is *included in all GEM application packages*. *Publisher* runs comfortably on a two-floppy 8088/640K/CGA PC. It even runs on a one-floppy PCjr. *Publisher* runs that much better on an AT/EGA/hard disk system, and permits impressive full-page color displays with a Genoa 800 x 600 card. HP LaserJet+ and Apple Laserwriter are supported, and the output on Epson & IBM 9- and 24-pin printers is superior to that of any other publishing program I know of. A driver for the Diablo 630 daisy-wheel is included with the package, and drivers for the Diablo C150, Quadram Quadjet 9000, HP Thinkjet, High Res IBM, Epson Wide Carriage and Multicolor printers are available upon request from DRI. Hewlett-Packard, Houston Instruments & IBM plotters are supported. The Desktop can also take input from a Polaroid Palette film recorder. The Epson,

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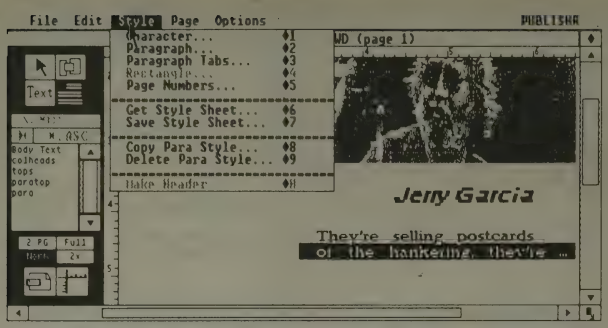

Full-sized view of page section, with text and graphics, showing pull-down style menu.

IBM and HP drivers work with any 100% compatible printers, and a PostScript driver for non-LaserWriter compatibles at 300 dpi is also available on request.

The Macintosh with *PageMaker* is said to be the system of choice for Desk Top Publishing, but what about companies already stocked with IBM PCs for financial tasks and word processing? They aren't in the business of issuing frequent publications, but might like to do a company newsletter occasionally. And what about home users who have already purchased cheap XT or AT clones? Perhaps these people would like to have the capability to do more than produce jagged looking greeting cards. There are artists, poets and writers who employ photo-offset, Xerox, and even mimeograph duplication processes to distribute their work. Some of these people do not own or have access to Apple publishing equipment, but can easily reach someone with a $500 2-floppy PC clone and a $200 dot matrix printer.

I run *GEM Desk Top Publisher* on a PCjr. If you run an XT with a hard disk, you'll be pleasantly surprised to learn that DTP will give you about 75% of *Ventura Publisher* for about 50% of the price.

Working With GEM DTP

The *DTP* work screen is very similar to *Ventura's*. As with most Paint and Drawing programs, you have a toolbox on one side of the screen, work area in the center, and pull-down menu options along the top. If you are familiar with Microsoft *Word*, you will recognize the scroll bars along the side and bottom of the screen, which let you manipulate the work area with a mouse.

Page layout is accomplished basically by using the mouse or cursor keys to draw rectangles in the work area (analogous to *Ventura's* frames). The work area can be viewed from a full-page or double-page spread to allow you to place the rectangles accurately on the page. In addition to rulers which can be toggled on and off and set to English or Metric measurements, *GEM* has a unique coordinate toggle which appears at the cursor to assist you, so you can easily construct your rectangles to any desired measurement. Once a rectangle has been placed on the page, the toolbox will display a directory of text or graphics files. You point-click with the mouse to read either into a rectangle. (You can also use cursor keys to do anything you do with a mouse in GEM, but generally, the mouse is faster.) Your text or picture will flow into the rectangle you've selected.

If you load a picture into a rectangle it becomes a graphics rectangle, and can be subsequently expanded or shrunk. The picture scales itself accordingly. A picture can also be loaded in at a fixed size, and the rectangle adjusted to display any part of it. (This is called cropping).

If you load a text file into a rectangle, it first appears in the type style and size specified as the default. Later you can reformat text, edit it, or add new text. Again, *Publisher* draws on a feature familiar to MS *Word* users with its style sheets. Default paragraph and character formats are built and saved in style sheet files, which can be loaded automatically or created. The style sheets apply global formatting, so that each paragraph does not have to be set up individually. If you don't specify otherwise, *GEM* will copy the rectangle you've constructed and apply the style sheet to subsequent pages as you page-down through your document. You don't have to set up each page individually, although you can, if you want to. This is one advantage *GEM* has over the current IBM version of *PageMaker*.

Another advantage that *Publisher* has over *PageMaker* is that it runs much faster. As this review is being written, a new release of the *GEM Desktop* program (3.0) is being prepared which runs four times as quickly as the present version. This will be bundled with all GEM products as of the first of December, 1987. Users who register between September 1 and December 1, 1987 will receive the update at no cost. Even *Desktop 2.2* (the previous version) will perform faster than either *PageMaker* or *Ventura*, making use on an ordinary 4.77 MHz PC tolerable. The new version will redraw the screen faster, have faster PostScript output and incorporate a real-time mouse driver. Users will now have the option of automatically dropping a menu when the Mouse pointer reaches the appropriate part of the screen, or setting configuration so that a button has to be clicked, as with MS *Windows* applications.

The new *Desktop* will also give *Publisher* the ability to generate PostScript compatible fonts in any point size from 7 to 100 with selective paging of the font you wish to use. This will cut down on the amount of memory the program uses, and save storage space on disk, as only the fonts you need have to be present.

Digital Research and Bitstream have developed a version of Bitstream's *Fontware* Font kit which allows installation of the same 80 typeset fonts which Bitstream offers with *Ventura*. These fonts are produced by a character generating algorithm from outlines in RAM, improving appearance on the screen and producing output which is identical to what you get with PostScript. As of December 1st, *Publisher* will come with four weights of Swiss (Helvetica), four weights of Dutch (Times-Roman) and one weight of Charter. The Bitstream fonts work on non-PostScript lasers and dot matrix printers, as well. Digital Research also licenses a *Fontmaker* tool, marketed primarily in Europe. With the *Fontmaker* tool, you can design your own fonts in any desired typestyle or point size.

The two European and two American page size defaults for printing have been complemented in the new *Desktop* to offer a variety of additional formats, additional paper tray selection, print-to-disk capability and selective page printing. If you have a hard disk you can use the provided spooler to print in the background.

Overcoming Limitations: Editing

Although *Desk Top Publisher* is faster and easier to use than some higher end programs, it does have limitations which you may wish to overcome.

1. Formatted text. When *DTP* reads a text file into a rectangle, it strips out all of the underlining, bolding, and italics instructions put in by

DIFFERENCES BETWEEN GEM DESKTOP PUBLISHER AND VENTURA PUBLISHER

VENTURA PUBLISHER	GEM DESKTOP PUBLISHER
■ Three editing views: normal, 200% and reduced.	■ Four editing views: normal, 200%, full page & double page.
■ Retains formatting codes from *MS Word, WordPerfect, MultiMate* & *Wordstar* files.	■ Reads files from *WordPerfect, Multimate* & *WordStar*, as straight ASCII, no formatting retained. (DTP format codes can be inserted in text).
■ Loads graphics from *GEM, PC Paintbrush, Lotus* & other formats.	■ Loads graphics from *GEM* applications (*GEM Graph* can import *Lotus* graphs which can be used in DTP).
■ Three font styles supplied with program: Helvetica, Times-Roman, Courier.	■ Three font styles supplied with program (Swiss, Dutch, Charter).
■ Manual kerning.	■ Automatic kerning.
■ Built-in drawing tools.	■ No built-in drawing tools; incorporates icon-pictorial headers & footers created with *GEM Draw+*.
■ Automatic footnote & index generation.	■ Footnotes & index must be handled separately.
■ Edits 8-column text.	■ Edits 4-column text.
■ Requires hard disk.	■ Runs on 2-floppy system or hard disk (can be made to run on single-floppy PCjr!).
■ Runs sluggishly on XT system--requires AT to run comfortably.	■ Runs comfortably on ordinary XT system.

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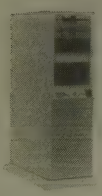

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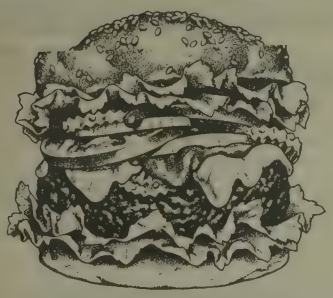

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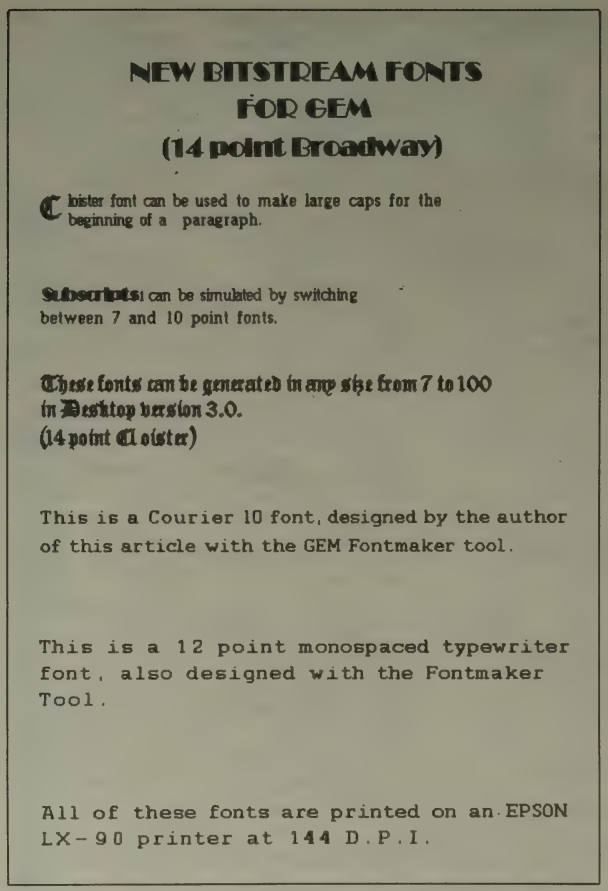
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Bitstream offers a variety of type styles and let you design your own fonts.

your word processor, although tabs are preserved. One way around this ble text format codes. You can either get used to typing in a ‹U› whenever you want to underline as you prepare your first draft, or use your word processor's native formatting, then build find and replace macros to substitute the GEM codes. In *WordPerfect*, for example, you would find all the [U]'s and replace them with ‹U›'s. *WordStar*, *MultiMate* and *PCWrite* work similarly. With Microsoft *Word*, you've still got to do an ASCII save or print to disk and use macros in a text editor to replace the printer codes.

2. Creating text in a rectangle. *DTP* only allows you to add text to a rectangle which already has text read into it. To get around this limitation, you can create a special text file with only one space character to read in. From DOS just Copy Con: Fill.Txt, hit return and type in one space, hit Ctrl-Z to save the file. Then you can make a rectangle of any size you like, read in Fill.Txt and type in whatever you want. If you want to do this for more than one rectangle, you need to make several filler files, Fill1, Fill2, etc.

3. Drop Caps. You can create a drop cap to begin a paragraph by ter. Set the letter in the desired point size, then use the mouse to position the rectangle at the beginning of the paragraph. Make the rectangle transparent and adjust the paragraph text, if need be.

4. Subscripts/Superscripts. *DTP* does not have the capability to insert these. You can fake a subscript by doing a font change to a smaller font. To do a superscript, you'll either have to insert a small rectangle with the number in it, or get the *Fontmaker* tool to design a special raised font. Footnotes have to be formatted in your word processor. If you want them to appear on the same page, get your word processor to print to disk and then read in the disk file, or save the footnotes by themselves as special files and create rectangles at the bottoms of the appropriate pages to read them into.

Overcoming Limitations: Graphics

DTP reads in graphics only from GEM programs. If you want to incorporate a Lotus graph, you can import it into *GEM Graph*, if you have the program, and then save it as a .GEM file. If you want to load pictures from other sources, here are a few suggestions.

1. For $99.95, The Graphics Link offers *PC-Kwikart*, which converts file formats from *PC Paintbrush*, *DR HALO*, *PC Paint+*, *MS Windows Paint*, *EGA Paint*, *MacPaint (IBM READMAC)* and *BASIC BLOAD/BSAVE*.

2. For $79.95, *Optiks* is an excellent Paint Program utility which does file conversions in all of the above formats, plus uncompressed Aldus TIFF, Lotus PIC, Fontasy, First Publisher Art, EFS IMG, RICOH PIG, IBM ISF, COMPUSERV RLE, and uncompressed WIPS.

Optiks is also a small Paint application in itself, allowing you to enhance images by setting a virtual page mode in VGA, EGA, WYSE 1280, AT&T TARGA, CGA, Hercules and other resolutions, load a picture, do fat-bit editing, draw geometric shapes & fill patterns, resize and copy parts of the picture and print or save to disk in any file format. Several scanning devices are also supported, allowing you to scan images into the program and save them in any file format. *Optiks* includes several screen-remapping algorithms to clean up the image with gray-scale smoothing, contrast emphasis, or smoothing of stepped diagonals.

3. If you have a modem you can find various BBS systems offering Public Domain and Shareware screen capture utilities. One called GEMCAP will let you take any screen and dump it to disk in a .IMG file format. Another called GRCP will let you capture any screen and paste it into *GEM Paint*, where you can work on it and save it to an .IMG file format.

source for obtaining free clip art in various file formats.

File Management On Floppies

1. Use of Output Application. The way GEM is currently set up to print, you must exit the *Publisher* and return to the Desktop if you run it on floppies. This can be gotten around by making GEM think that you've installed on a hard disk system. You can do this either by installing all of the GEM files on a 720K floppy and telling the program it is on a hard disk, or by using the DOS Join command and making one floppy a subdirectory of another. The program will then let you print directly from *DTP*.

DTP currently insists that all files which make up a document come from the same floppy disk, and will not let you transfer documents from one floppy to another without first loading the document into the program and then saving it to a different drive. You can get around this with the DOS Join command. If GEM thinks that Drive B: is a subdirectory of Drive A: called /Extra, it will copy or save anything there that you want it to.

2. Easier access to the Desktop. When run on floppies, GEM insists that you swap disks whenever you return to the Desktop, displaying the Giant Hand with its insert disk message whenever you exit a GEM application. To banish the Giant Hand, copy the GEM *Desktop* files to a small 80K RAM disk and put a path statement in your Autoexec, or use the DOS Join command to make the RAM disk a subdirectory called /GEMDESK of your boot drive. You will then return to *Desktop* automatically after exiting an application, and access it initially with no insert disk

Resources

GEM Desk Top Publisher ($395, list), *Draw+* ($295, list), and *1st Word+* bundled with *Paint* ($295, list) are all available from Digital Research, Incorporated, 60 Garden Court, Box DRI, Monterey, CA 93942 (Telephone: 800/443-4200). You may find these products considerably discounted through various independent dealers.

Additional Font packages are available from Bitstream, Inc., 215 First Street, Cambridge, MA 02142 (Telephone: 800-522-3668). The *Fontmaker* tool, and other custom fonts are available from Specific Solutions, 1869 Anthony Ct., Mountain View, CA 94040 (Telephone: 415/941-3941)

PC-Kwikart is available from The Graphics Link, 394 S. Milledge Ave., Ste. 200, Athens, GA 30606 (Telephone: 1-800/523-1796)

Optiks is available from Keith Graham either via mail at 238 Germonds Road, W. Nyack, NY 10944, or by subscribing to the PC Rockland BBS service where it can be downloaded. Subscribing to the BBS also gets you into an on-line *Optiks* conference, and access to over ten megabytes of scanned clip-art. Orders by mail are $79.95 plus $10 to handle cost of disks. Subscription to *Optiks* via PC Rockland (Telephone: 914/353-2157) is $79.95 for one year.

GENCAP, MAC2GEM, GRCP and other shareware graphics utilities can be downloaded from various free BBS systems including The Pixel Penguin (415-655-2689) PC Picture Swapline (714/545-8100), and the free node of PC Rockland (914/353-2176) (The Free node of Rockland does not get you access to *Optiks*, although there is a public domain version available which will not save files in all the esoteric formats).

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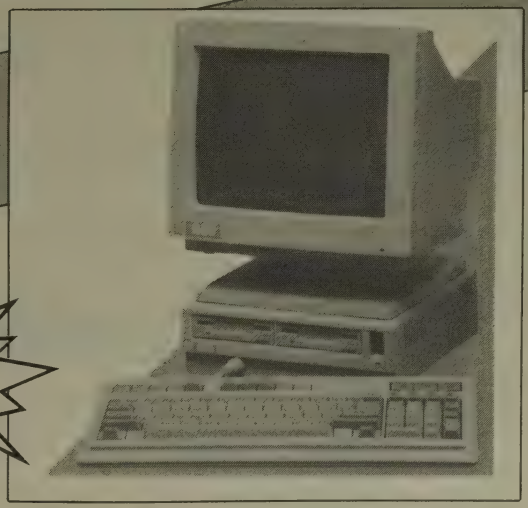

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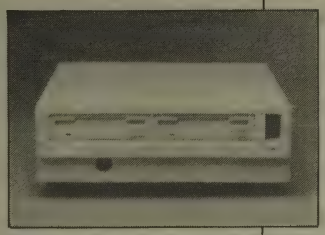

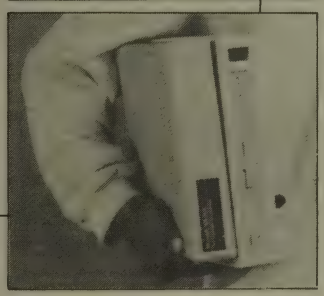

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INFO-XL:

The Life Organizer

By Birrell Walsh

There has been a lot of conversation about "Information Managers" since Lotus Corporation announced that Mitch Kapor, the inventor of *Lotus 1-2-3*, started work on *Agenda*. Information managers like *Agenda* are designed to prevent the user from floundering in a sea of free-form information. They have facilities for keeping track of time so the software can serve as a scheduler. They have ways of connecting the information in all sorts of patterns and are complex enough to be "Life Managers."

Lotus is still putting the finishing touches on *Agenda*, but its competition is already on the scene. Valor Software (a good name for a company that takes on Lotus) has fielded *INFO-XL*.

If you have to schedule or organize *anything*, you owe it to yourself to see *INFO-XL*. It won me over immediately — and I see a lot of software. Whereas most of it moves across the desk into a dusty archive, this product is already scheduling four careers in our house.

Five Points Of View

When you load *INFO-XL*, you find yourself confronted with five of *INFO-XL*'s six windows. They provide different ways to collect and connect your information.

The first window is a "Manager" for the others. You use it to make an outline structure much like that in *ThinkTank* or *Ready!*. With this outliner you can set the broad pattern of your information.

The second window is for database records. "What?" you say. "I thought this was a freeform information handler." Well, it is and it isn't. The database records are like those in *dBASE III* or *Paradox*. They have character, number and date fields, with fixed lengths. They differ in that you can attach any kind of database record to any of the outline entries.

The use of the database is optional. However, in the first few minutes with *INFO-XL* I had designed three kinds of database records. One was for recording phone conversations, one for the name and address of people I know — with a field for birthdays — and one for business contacts. *INFO-XL* allows you to attach any of them, or none, to an outline entry. You can add fields, move fields, or delete fields within these database records at any time.

Completely free-form is the third window, for comments. If you choose to use it, you can append up to 10,000 characters of commentary to an outline entry. You can write your letters, memos, diatribes, comments, notes on conversations, plans, recipes, and everything else. The comments window is a robust, if simple, word processor. It can also import ASCII and *WordStar* files, so you can append documents and letters you have written elsewhere to your *INFO-XL* records.

At the bottom of the screen are two more windows devoted entirely to managing your time. In the left hand corner is today's calendar. In the lower right hand corner is a monthly calendar. Both of them use *INFO-XL*'s remarkable date-stamp system.

On any one of the outline entries you can hit Control-D, and another window appears with the current date and time. You can change this to any date, past or present. When you finish the editing, the date becomes associated with the entry.

Thereafter the entry will appear in the monthly and daily calendar on that date. The monthly calendar will show the date in highlighted video because it has an outline entry associated with it. The daily calendar for the day will show you all the activities for the day, sorted by time. In other words, you can create your datebook as a by-product of your other planning in the outliner, and examine the entries any time you want.

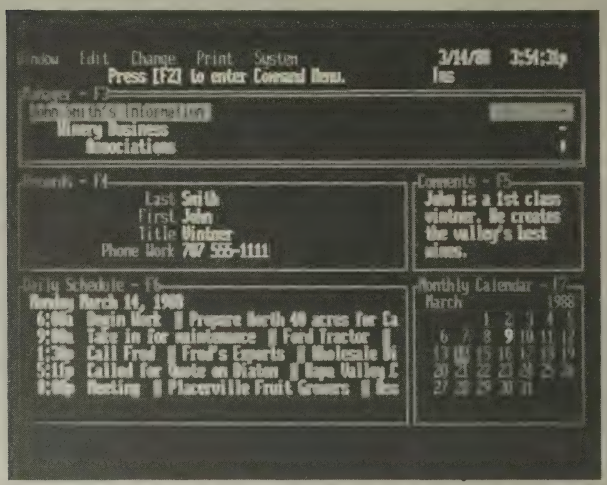
The connection works the other way, too. If you are in the outliner window, the calendar will track with it as you move the cursor from item to item. If any item is date-stamped, moving the outliner's cursor to that item will bring up a calendar for the item's month and day. You will automatically be shown what else you have assigned to that time.

I see a lot of software. Whereas most of it moves across the desk into a dusty archive, INFO-XL is already scheduling four careers in our house.

Connecting It All

INFO-XL's sixth window ties together all the others. When you press "F8," yet another window pops open. *INFO-XL* invites you to choose which of six words or phrases it will seek for you: it can seek for (A and B and C) or (D and E and F), where the letters stand for any word or phrase. You can tell the searcher to look in manager entries, database records, comments, or in any combination of them.

The searcher is fast and clean. Its window provides a list of all the entries, records and comments which contain the target words or phrases. You can see the records and comments that are associated with the "hits" as you move the search-window cursor through the answers. You can jump from the search window's list to the outline entry proper with one keystroke, to find the context in which you originally created the entry.


Edit Change Print System
3/14/88 3:51:3
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INFO-XL's default screen layout, showing five of its six windows.

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The search window shows not only the manager, or outline, entry. It also shows the category it belongs to, and the categories that they belong to. You get a whole genealogy for each hit.

If the tree-like structure of an outliner seems too limited, *INFO-XL* provides linking. It is like the "cloning" facility in *ThinkTank*. With this you can include any item under as many headings as you wish. These other entries are not copies — if you change one, they all change. They bring along their date & time stamps, their database-records, and their comments. This trick is achieved behind the scenes: *INFO-XL* uses internal pointers to direct attention to the appropriate entry. What you see is a doppelganger of the entry.

The linker allows you to list Alphonse Smith under business contacts, bowling buddies, and Italian cooks. A change to one entry will be a change to all of them. Deleting linked items does not harm the original entry. You can put together transient lists — for a project or a party — and then delete the list without losing the original records of which those temporary listings were composed.

...And Serving It Forth

As the manufacturer points out, *INFO-XL* does more than just "replicate paper." Each window of *INFO-XL* prints in a slightly different way. The manager prints much like a traditional outline processor with accessories. You can include any associated comments and records or exclude them if you choose. The date that you have associated with the entry will also be printed.

You can print out a calendar for any set of days you choose, with the items arranged by day and hour. You can choose to include all the items that happen during the time period selected, or only those which belong to one family of the outline. Unfortunately, the comments and records do not appear on the calendar print-out.

A comment window can be printed out as you would with any word processor, although font and emphasis options (underline, etc.) are not available. You do not need to leave *INFO-XL* to print out the memos, letters, and dissertations you may write within it. If you wish to enhance the document *INFO-XL* can export ASCII files from the comments window to any word-processor.

Example of search criteria.

Database records can be printed out one at a time. You can also export them in a "comma-delimited ASCII file," which most databases can accept, and which works with most word-processing mailmerge features. You can keep your database records in *INFO-XL* for daily accessibility, and still use them with your conventional database software when that is more convenient.

The Uses Of A New Kind Of Tool

I quickly found how good *INFO-XL* is by using it to pre-organize a project involving 80 people and several million dollars.

I was able to include peoples' addresses and phone numbers in structured fields. At any time I can send this list off to *Paradox* for addition to a larger mailing list. It can be made ready for mailmerge by a word processor in a few moments. Since it is still in *INFO-XL*, it is also available without leaving the project planner.

Multiple linking made it possible to include each person in several different projects in the outline and have all the information for each person under each heading. The comment fields allowed the notes, the memos, the conversation records, and the draft agreements to be in the same file with the database. Each note about things to do could be date-stamped. As I did so, a schedule and a history were both automatically generated.

Within one day's use, I had created a plan seven layers deep and 32,000 bytes in size. *INFO-XL* makes it easy for a beginner to get this involved, this fast.

Anyone who has to keep track of a lot of people, things and events will want to consider this product, because it is designed with many different kinds of information in mind. You can store all the customers, clients, contacts, references and appointments in one "information base." Each can be stored in the format that fits it best. Your inventory may fit comfortably into standard data-base format, so that is what you use. Your conversations need free-form notes, so they are kept in the comments section. Scheduling a big job calls for "major projects" and the "component tasks," so you use the outliner.

Not only is it easy to get data into *INFO-XL*, it's easy to get it out. The search facility lets you find items that are buried deep at the bottom of the outline structure, or retrieve the witty aside you made in a mislaid comment. If it's not a matter of content but of time, the two calendar views allow you two oversee a month or a day at a glance. The printing facilities allow you to extract what you have found with little pain.

INFO-XL is more than an information handler and it's not just an interesting database. The structure that Valor Software has chosen allows users to examine what is going on in their lives, and to keep track of it with some hope of success. You can make lists of resources and goals, and then use the linker to allot them to different projects. You no longer need to choose among an outline processor, a free-form word-processor, an orderly flat-file database and a time-manager.

INFO-XL has the features all of those different classes of software. You can keep a phonebook, an order-book, a datebook and a poetry notebook in the same file.

It is not just another "integrated" product, either. However beautifully an integrated product's applications may work together, they are separate applications which have separate files of entries. *INFO-XL*'s "database" and "time manager" and "word processor" are integrated in every entry, without seams.

You no longer need to choose among an outline processor, a free-form word-processor, an orderly flat-file database and a time-manager. INFO-XL has the features all of those different classes of software.

If you need more motivation to buy this remarkable software, consider this. Valor's update policy is that the purchasers of this edition will get the first update for free. The people at Valor seem to be eager for user feedback, so you have the possibility of getting a second edition that solves any problem you have with this first release at no additional cost. Since The Competition will be a Lotus product, you have to ask yourself — when did Lotus put out an update for free?

This is a flagship product and will be leading the fleet. If you have information to handle, don't miss it! ($265.00.) Valor Software, 1700 Don Avenue, San Jose CA 95124, 408-978-3044. □

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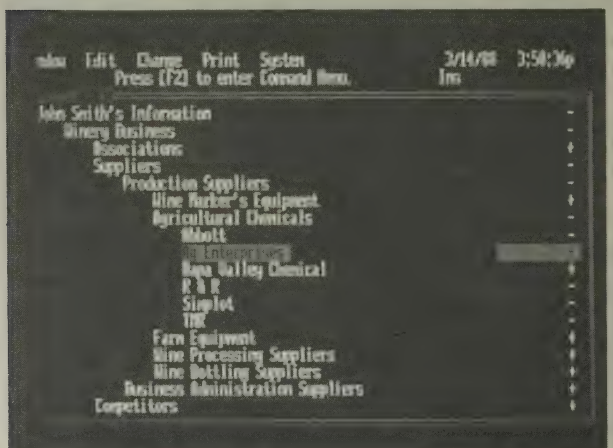

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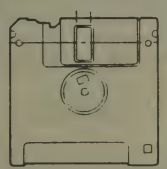

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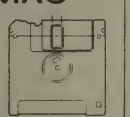

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The Laptop Office

By Ken Milburn

The ability to take your computer home or out of town has long been popular enough to have established Compaq as a major player in the PC-compatible wars. The "suitcase" portable succeeded because it nearly duplicated the functionality of a desktop machine. But smaller, lighter, handier "laptop" computers have been slow to open the public's pocketbooks. Until a year or so ago, there were some good reasons: Screens were nearly unreadable except in ideal lighting, batteries died just when the creative "light bulb" lit, and most laptops could do little more than act as "notebooks" for itinerant reporters (who bought fleets of Radio Shack's Model 100 at a time when they cost as much as some full-featured PC-compatible laptop machines cost today).

Despite the fact that fully-featured, PC-compatible laptops with legible displays are in plentiful array these days, they still aren't capturing a major chunk of PC dollars. I suspect a couple of reasons: A) They still look like toy typewriters and B) their real benefits aren't obvious. It's hard for most of us to imagine why we should pay nearly twice the price for something one quarter the size of an equivalent desk-bound computer. Prices for "briefcase" portables are falling, but not as fast as those for PC-clones.

Why should we pay nearly twice the price for something one quarter the size of an equivalent desk-bound computer? Freedom. When you want to get away from ringing phones and interminable interruptions in the office, you can take all your work with you.

Freedom is what you get for the extra bucks. Any time you want to get away from ringing phones and interminable interruptions in the office, you can take all your work with you. If you feel trapped writing a program or report at home, you can go sit on a mountaintop and get your work done. You can have your important information available when you need it, and when you come across important information, you can input it while it's fresh and details are apparent. All of these things are just as true whether you're an architect, president of your company, on-site bookkeeper — yes, even a salesman or journalist.

Copyright © 1988 by Ken Milburn. All rights reserved. *Ken Milburn is a freelance writer on Microcomputers. His articles have appeared in numerous computer publications, including* PCWorld, InfoWorld, Computer Graphics World *and* MicroTimes. *He also does system configuration for small businesses. He can be reached at (415) 331-6926 or by sending E-mail to (ken) on the WELL, (415) 332-6106.*

Different Laptops For Different Folks

O.K. So let's assume that you've decided the price of freedom is worth it. Which laptop you buy depends on what you want to spend vs. how much you want the machine to do. Most of us will use them most of the time to do one or all of the following:

- Write: quick memos, follow-up letters, work on a speech, file a report.
- Keep track of your time and activities: Names and addresses of business contacts, To-Do lists, an appointment calendar.
- Use a spreadsheet to do some sort of financial planning.

All of these tasks are practical and easy for a machine with 640K and one 720KB, 3.5" floppy disk. Some all-in-one PC programs like *WordPerfect Executive* and Microsoft *Works* even combine all these capabilities (and more) onto one floppy. You can buy such a machine for right around $1,000 from several vendors: DataVue (Spark), Sharp and Toshiba (1000), for instance.

If you don't want to give up the full version of *WordPerfect*, Lotus *1-2-3* or some other familiar software title, you can add a second floppy drive or a RAM disk for a few hundred more.

If you think you're going to spend much time working under lousy lighting conditions (restaurants and airplanes are good examples), better plan on spending closer to $2,000 for a dual floppy machine. Most of the units in that price range have backlit screens that you can read from almost any likely position — even if you're sitting in the dark.

Weight is another consideration. Because the DataVue Snap is modular, it's bigger and heavier than I'd like it to be — especially toting it down a crowded Tokyo sidewalk. If all you need is word processing, you can still get by with one of the "notebook" machines that do little else (e.g. Radio Shack's Model 200) — or you can simply take the back off the Snap, slide in a special option card and use the front half as a notebook. If you have to do more and can do without the Snap's versatility, want to be PC compatible and still feel that weight and size are primary criteria, take a look at Toshiba's inexpensive Model 1000. It has only one floppy disk, but you can load your programs into a RAM disk (an EMS card with 128K of user RAM and 640K of EMS is available for that purpose), then use the floppy for storing and transferring your files. That little gem weighs only 6.5 lbs (nearly half the Snap's weight) and is one of the least expensive models around.

To my mind, one of the least significant considerations in buying a laptop is which processor chip it uses. For those of you who are (or need to be) speed freaks, there are some pricey models from Toshiba, Ogivar, Zenith and others that sport 80286 chips that are the same as those found in IBM/AT. The Toshiba and Zenith machines also have plasma screens that are better than any monochrome monitor you've seen on a desktop. Again, you'll have to plug them in or buy a (more weight) special battery pack.

Connecting With Your Desktop

Even if you invest in a portable printer, chances are the time will come when you'll want to print your work on a letter-quality office printer that's too bulky to tote. You could plug the cable from the office printer to the back of your laptop. A better idea is to transfer the files to the (probably more fully-featured) software package on your desktop PC. Then you can use its capabilities to further edit and refine the content of what you've created. If you have a laser printer, you can even typeset and lay out your pages. It's also much easier, at that point, to incorporate information and graphics already resident on your office machine.

Most users will find that the simplest software is usually most appropriate for use on a laptop. The real reason simple software succeeds best on these machines is that the people who use them are generally in a hurry.

There are several ways to make your laptop communicate with your desktop PC. You can send files via modem (or null modem cable). If you're transmitting from a remote location, you'll need a modem and communications software on both machines. I recommend *ProComm* for the software because it's easy to use, flexible and (being Shareware) inexpensive. If you're using *WordPerfect Executive* or Microsoft *Works*, you won't need anything else. Those programs have built-in communications capabilities.

A closely related option is a "bridge" program like *The Brooklyn Bridge* or *The Flying Dutchman* (which lets you communicate even faster than through the traditional RS232 serial port by letting you use your "Centronics" printer port). These packages consist of some very easy-to-use file management and transfer software and

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a null-modem cable. You need only one package for both laptop and PC, and transfer is almost as fast as if you were transferring files between one disk and another on the same machine. Of course, both machines have to be in the same location when the transfer is made, so bridge programs are seldom a substitute for modem transfer.

The easiest way of all to transfer files back and forth, and one of the least expensive, is to install a 3.5" disk drive in the desktop machine. You can buy complete kits for between $120 and $200, and installation takes less than half an hour. Then all you need do is use the disks in whichever machine you want to be working on. All that's involved in making copies and transfers are the DOS commands you're already familiar with.

Most users will find that the simplest software is usually most appropriate for use on a laptop. That's not because of weaknesses in the performance of the machine, although the lighter weight and lower price of floppy-based units makes them more appealing. On those machines, software that can be stored on a single floppy requires less (confusing and annoying) disk-swapping. The real reason simple software succeeds best on these machines is that the people who use them are generally in a hurry. They want to get the information down as quickly as possible, and in a form that can be used later by people in the office.

Keeping that in mind, there are several packages that I've found to be extremely useful, besides the already mentioned WP Executive and Works. One of them is *ACT*, a very versatile and clever bit of personal contact and time management software. Far more sophisticated than the "address books" contained in most desk-accessory and all-in-one programs, ACT is good enough to keep track of almost everything connected with sales and contacts. You can automatically generate letters, make phone calls automatically and even fill in the blanks in a new contact form automatically. The beauty of having this program on a laptop is that the information you need is there when you need it — no matter where that may be.

If you're an engineering type, you may want to get hold of a copy of *AutoSketch* ($79.95), *GenericCADD* 3.0 ($99.50) or *FirstCADD* ($49.95). Unlike most other precision drafting programs, these all sell for peanuts and fit on a single disk. They don't have every bell and whistle contained in the $2,995 version of *AutoCAD*, but they're plenty good for making measurements and drawing notes in the field, then converting them to *AutoCAD* .DXF files, which can be understood by most any PC-based pro-level CAD package. Any of these programs can be used without a pointing device. Or you could attach a Logitech C7 Plus to the serial port on your laptop, since it is easy to interface and needs no plug-in power or expansion bus slot.

Why Your Laptop Probably Won't Be Your Only Computer

This entire column was written on a DataVue Snap, mostly in clients' offices or neighborhood coffee shops. None of it was written in my computer lab. Because I was out of prison, it took about half as long to write as I usually spend on articles of the same length.

I'm not about to sell my Mac or my ATs though. For one thing, I review and work on a lot of graphics programs. Most laptops are limited to the primitive CGA graphics born with the original PC. And most of their screens are "squished" from top to bottom, making text look little better than it would on a regular aspect (4:3) monitor (because the scan lines are pushed closer together in the process), but making circles look like eggs when you draw or paint them. There are some exceptions. Kaypro, Zenith and Ogivar announced built-in EGA displays this fall — good enough for "on-the-fly" business graphics, CADD and desktop publishing. The Zenith and Ogivar screens are even the right shape. Still, you'd be hard-put to attach a large screen, specialized card or digitizing pad to a laptop. Most of them have no expansion slots and only one each serial and parallel port.

If you're going to work with an accounting package, do sales order entry or keep a large database on-line, you'll need a unit with a built-in hard disk. That's either going to severely limit battery life or restrict you to a computing location with a wall plug. Furthermore, the machine's going to cost you $3-5K. There are several machines available with hard disks, now mostly in in the 20MB range. The Snap I'm using turns out to be the right choice when you need freedom from a wall plug at some times, a hard disk at others. Its computing module unsnaps from the back of the case and can be either a plug-in 20MB hard-disk unit or one with a four-hour battery and dual floppies.

Aside from the slight differences in capabilities, there's another reason why some people won't want to substitute a laptop for a desktop PC: Other people in the office may need access to the information that's slung over your shoulder as you board the plane to Cleveland. □

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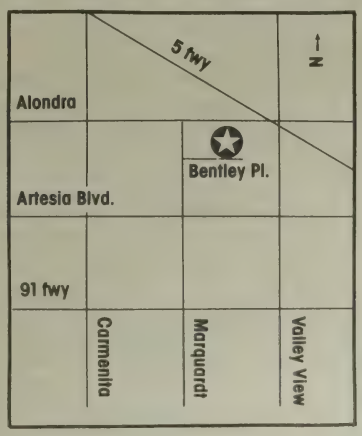

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The Raw And The Cooked

By Bennett Falk

Dear Baba Ioctl: What does "Segmentation violation — Core dumped" mean?
tation violation — Core dumped" mean?

I was working with a new form-driven data entry program the other day and suddenly, after a sequence of keystrokes I don't remember, the screen went blank and gave me that error message.

The next thing I did was press RETURN, and absolutely nothing happened! The cursor stayed in place blinking at me, it didn't go to the next line, and I didn't get another shell prompt. I thought I'd crashed the computer, but the system administrator just laughed at me when I asked about that.

Someone at a desk near mine said I had "frozen" my terminal (whatever *that* means), and the only thing I could do was log in somewhere else and kill all the processes running on my terminal. They said this would have the same effect as logging out, and then I could log back in and everything would be normal.

Well, I took their advice, but what a pain!

First I had to find a free terminal and log in. Then I had to give a command ("tty") to find out what port that terminal was attached to. Next I had to get the port number for the terminal that was frozen (I used "who" to do this), and then I had to get process ID numbers for all the processes running on that terminal with "ps -t" and the tty number for the frozen terminal. The first time I tried this it didn't work because I put a space between the "-t" and the port number, so I had to retype the whole thing. Fortunately, there was only one process. I used "kill -9" with the process ID number (only now, of course, there *had* to be a space separating the "-9" from the process ID) and that was finally that.

"Segmentation violation — Core dumped" is an ominous-sounding but all-purpose UNIX error message that simply means the program you were running has a bug in it.

When I returned to my terminal, I had a login prompt. I logged in, and sure enough, everything was normal.

Later in the day, I had another "Segmentation violation," and had to go through the whole thing again. I hate to complain, but this is really a hassle. Isn't there an easier way to deal with this stuff, whatever it is?

Yours,
Disgruntled in Del Mar

Copyright © 1988 by Bennett Falk. Bennett Falk lives in the Bay Area and works for Sybase, Inc. He writes whenever he can and hopes for the best.

Baba Ioctl replies:

Dear Disgruntled: you have, in reality, asked Baba two questions, which, in the spirit of magnanimity, he will answer for the price of one.

Answer Number 1: "Segmentation violation — Core dumped" is an ominous-sounding but all-purpose UNIX error message that simply means the program you were running has a bug in it. Most likely this bug has to do with one portion of the program gleefully writing over some heretofore sacred space in memory.

When, elsewhere in the program, it is discovered that the sacred memory space contains only gibberish, the program does the honorable thing and dies, leaving behind a file named "core" which is an image of memory at the time the problem was encountered. When a program, as we say, "dumps core," control is returned to that program's parent process. Usually, this parent process is an interactive shell program of some kind.

Unless you are the author of the program producing the core dump, you need concern yourself no further with the segmentation violation and its causes. The bug, indeed, is the least of your worries. You may, with impunity, remove the file named "core" in the interest of conserving disk space.

Answer Number 2: You, Disgruntled, have already made excellent progress in the quest for Enlightenment; you have learned that the core dump did not crash the system, and you described quite accurately one way of recovering from its effects. You still, however, languish in frustration because you have not yet learned to see that the "frozen terminal" is but an illusion.

How can it be that a frozen terminal is an illusion? Think for a moment about how UNIX exchanges information with any device. The UNIX kernel contains "device drivers" that translate information into and out of the format that each device requires. Most of the device drivers control mechanical things, such as disk drives or tape drives, which read and write at very high speeds without error. These device drivers are hardware specific, that is, the drivers are written for a specific make of disk drive or disk controller, and if a different brand of drive is installed, it requires a different device driver.

The terminal drivers in the UNIX kernel are device drivers of a special kind. These drivers are not hardware specific: they can read and write to any of the hundreds of different brands of terminal on the market. In addition terminal drivers impose a "human readable" format on the computer's output: they discern, among all the characters read from the error-prone typist's keyboard, which are genuine and which are erasures.

To do this, the terminal driver uses a "line discipline" which processes everything coming from or going to a terminal. The line discipline does many things. It organizes input into lines, it echoes characters to the terminal, it expands tabs to spaces on output, and it interprets the user-defined "erase," "kill," and "interrupt" characters. The erase character is like a destructive backspace, the kill character throws away the current line and allows the typist to start over, and the interrupt key stops current command execution. The line discipline can process other kinds of signals as well, sensing when the terminal's power switch is turned off or when the phone connection is interrupted on a dial-up line.

"Cooked mode" is used by the UNIX shells and most of the built-in UNIX utilities. In this mode, terminal input is read a line at a time; in order to send anything to an application using cooked mode, the user must enter the expected input and press return.

As you might expect, the line discipline can be configured for many different combinations of features. However, most terminal drivers use the line discipline to drive terminals in one of two modes: "raw" mode and "cooked" or "canonical" mode.

"Cooked mode" is used by the UNIX shells and most of the built-in UNIX utilities. In this mode, terminal input is read a line at a time: in order to send anything to an application using cooked mode, the user must enter the expected input and press return. In addition, cooked mode allows the user to edit input (using the erase and kill characters mentioned above) while it is still under the control of the line discipline and before it is presented to the controlling program. Above all, in cooked mode, the RETURN key (which sends Control-M) on your keyboard is mapped to NEWLINE (or Control-J). By convention UNIX uses Control-J as the end of line character.

Cooked mode is fine for programs that are

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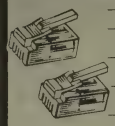

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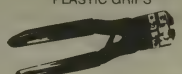

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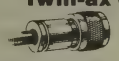

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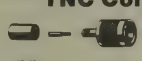

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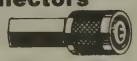

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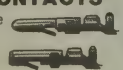

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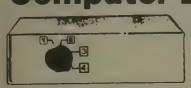

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"line-oriented" and have a wordy user interface. Because input is buffered in lines, cooked mode is less of a burden on the computer's processor, and using cooked mode, the programmer has no need to build extra commands into an application for editing the user's input. In canonical mode, the line discipline, which is not part of the application at all, provides this ability. Consequently the programmer has less to do and the application itself is less bulky. UNIX programs like the shell, "ed," and "mail" use canonical mode to good effect.

Of course, there are things for which cooked mode is not suited. Imagine how difficult full-screen editing would be in cooked mode. Consequently, the UNIX terminal drivers support a "raw mode" for use by screen-oriented programs (editors such as the beloved "vi" and probably by your "form driven" data entry program). In raw mode, terminal input is read a character at a time, and of course, this means the terminal driver does not interpret special characters such as erase or kill or even RETURN. Raw mode also turns off automatic echoing of keystrokes. Consequently, applications using raw mode must take complete control of editing input and displaying characters on the screen.

UNIX allows users to select exactly what mode the line discipline will use. Programmers make this selection with the "I/O Control" system call whose name is the same as mine. "ioctl." With the "ioctl" system call, the programmer can build an application that, when run, puts the user's terminal in raw mode and restores the original line discipline when the application exits.

There isn't much a user can do about terminal driver settings inside an application program, but as you will see below, even non-programmers can use the UNIX "stty" command to set the characteristics of the terminal driver for the current program.

Imagine how difficult full-screen editing would be in cooked mode. Consequently, the UNIX terminal drivers support a "raw mode" for use by screen-oriented programs (editors such as the beloved "vi" and probably by "form driven" data entry programs).

At last, O Disgruntled One, the illusion of the frozen terminal can be unmasked.

The form-driven program you were running almost certainly put your terminal into raw mode. When that program exits normally, it restores the line discipline of your terminal to its previous state. However, when the program encountered a segmentation violation, it could not continue and abruptly quit without restoring the original state of the line discipline. Your terminal was left in raw mode even though control was returned to the shell for which cooked mode is customarily used.

If line discipline were built into the shell, your terminal would indeed be frozen at this point. There would be no way to communicate with the shell from a terminal in raw mode.

However, because line discipline is part of the kernel's terminal driver and not part of the shell itself, you can still issue commands to the shell even when your terminal is in raw mode. You need only be aware that the services cooked mode provides (particularly character echo and the mapping of RETURN to NEWLINE) are not available. (The absence of these services created the appearance that nothing happened when you pressed RETURN after the segmentation violation.)

To issue commands to the shell when your terminal has been left in raw mode, simply type the customary command and, instead of ending the command with RETURN, type control-j (^J) instead. (Control characters are not case sensitive, it will make no difference whether you hold the shift key down or not.)

Usually the first command you will want to give in such a situation is the command to reset the line discipline for your terminal to "cooked" mode:

stty cooked

There are several variations on this command. Most systems will recognize "stty sane." Some systems have a "reset" command for this purpose as well. If all else fails, however, the command "stty -nl echo" should restore order.

These and many other mysteries are discussed in the "stty" entry in the UNIX Programmers Manual. As with any sacred text, this manual entry will clarify some things and obscure others, but Baba has already answered two questions for the price of one, so read the manual first, please, and then submit your questions afterward. □

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Ten Steps To Telecomm Success

By Brock N. Meeks

Try to teach someone the wonders of online communications and what happens? You're likely to find yourself in a sadistic, sprawling headlong plunge down memory lane. The script is the same, only the names have been changed to protect the innocent.

Watching a friend struggle with baud rates, parity, stop bits, and a hideous device known only by the cryptic code name RS-232, is, as Yogi Berra once said, "Like deja vu all over again."

For all your future telecommunicating friends, and for all those that happened to find a modem in their Christmas stocking, here are Ten Steps To Telecommunications Success.

Do Your Homework

Learn most of what you need to know before you attempt to log on. Learn the jargon. Speak the lingo. Converse with the "natives." Once you're familiar with the language, you'll feel more confident. Ask anyone that's spent a modicum of time online and they'll confirm: there is an intimidating world waiting beyond that green screen.

Watching a friend struggle with baud rates, parity, stop bits, and a hideous device known only by the cryptic code name RS-232, is, as Yogi Berra once said, "Like deja vu all over again."

Doing your homework also extends to knowing how your communications program works. I know, there are precious few manuals that remotely approach a readable level; but time spent learning your communications program's functions should be thought of more as an investment than recreation. (Besides, you'll get plenty of recreation once you've logged on and start reading those crazy comments left by someone named Zaphod Bettlebox from Des Moines.)

Brock Meeks is a San Diego-based freelance writer. His well-worn online mentor is Ryan Gale.

Your Style

Develop your own style. The beauty of the online medium is that you can be anything you want to be. You can be a flaming liberal, a staunch conservative, or just a "fun guy" out for a midnight lark. More often than not, however, your online persona is an extension of the "real" you. Research shows that people are tremendously more candid online.

When developing your own style, it's easiest to just be "natural." Remember, however, that people are getting to know you solely by reading your online comments. For example, playing the devil's advocate is a worthy niche, but it can draw some ungodly fire from other users. If you can handle the heat, so be it. It is just this sort of variety that makes the online community one of the most interesting places to "be."

Zen And The Art Of Online Communications

Get a handle on your emotional state of being. I call this "Zen and the Art of Online Communications." Yes, it sounds a bit quirky, but it works. If you go online like some kind of emotional basket case, you're likely to log on the next day and wonder what could have ever possessed you to enter yesterday's off-the-wall comments.

Much to my chagrin, I find that my online moronic comments are easily traced back to some dour mood. And take it from one who knows: humble pie leaves a taste in your mouth that isn't easily forgotten. The online world is difficult enough to navigate without making the entire ethernet your personal battleground.

Of course, there are going to be those times when you just can't help but bring such emotions online. In that case, at least, have the hindsight to recognize what you've done and make amends. Apologize, grovel, whatever, but get the situation resolved. Developing that attitude may be the single most important key to your online longevity.

Weakness

Weaknesses. Know yours. Accept things about yourself that you don't do well and transfer those insights to your online "life."

Maybe you don't handle confrontations well. Online it's easy to confront someone because you don't have to involve yourself in a face-to-face discussion. But if you're not adept at such conversations *off line*, don't suddenly decide you can handle such dialogues online.

Sure, you can dial into your local labyrinth of bulletin boards until smoke starts to rise from your modem, but sooner or later you discover that the real advantage of online communications lies "out there" in the land of "pay for play."

It'd be easy to fire those first salvos across the ethernet, but people fire back. I've seen too many people fade from the bitstream because they couldn't handle a fierce online discussion.

Join in the types of discussions where you feel most comfortable. These may be technical, or in some kind of roundtable where you can share your expertise. Get involved in the types of discussions you enjoy or you're guaranteeing your failure. And who needs another statistic?

Strengths

The flip side of the above. Know what you're good at, what you enjoy the most, what it is that you have to offer someone else. Get a handle on your strengths and you'll flourish online.

When I first went online some seven years ago I was hammered on by other online participants because I was always looking at each side of a discussion. I was labeled "wishy-washy." Some wag suggested I use the handle "Charlie Brown." I copped to the "failing" claiming my journalistic background: "Journalists aren't paid for their opinions," I fired back, secretly harboring my own worries. "Are they right?" I agonized.

Here I am, several years later, and I've come to see that this aspect of my online style is a strength. It makes me a better participant. I often use this strength to revive an important discussion that I fear is ebbing into apathy.

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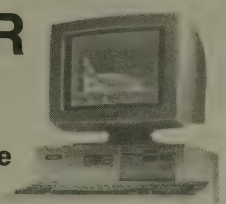

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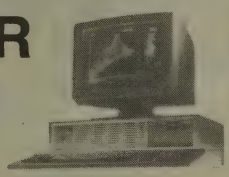

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Know Your Budget

Checkbook burnout. This is a malady peculiar to the information age. It comes with the overzealousness of discovering a "bright new world"; a "global village." It isn't free, folks.

Sure, you can dial into your local labyrinth of bulletin boards until smoke starts to rise from your Hayes compatible modem; but sooner or later, you discover that the real advantage of online communications lies "out there" in the land of "pay for play." In other words, to reach out and telecommunicate, it's going to cost you some coin.

There is nothing quite as horrendous as that first three-figure bill for accessing the WELL or CompuServe. And nothing can kill your desire for "going online" faster than a smoking hole in your rent money.

One solution, among others, is writing responses off line. This immediately does two things for you. First, it saves you connect time. Second, it gives you a chance to reflect and say what you really want, instead of what you *feel*, a situation that you may end up regretting.

Your Mentor

Find an online mentor. This is a person that you can go to when you have a question or a problem. Maybe it will be that first person to take pity on your poor, fumbling, online soul, or the person that quietly took you aside in e-mail and explained some of the finer points of this medium.

Send that person Christmas presents, cards on their birthday, whatever. Don't let them go. They will, undoubtedly, be your pathway to improving your online skills.

Using the modem as a procrastination tool eventually catches up with you. If you find yourself logging on when you really should be studying, getting that report done for your boss, or doing your taxes, it's time to reconsider.

Shut Up

Learn to keep your mouth, or cursor, as the case may be, shut. Nothing has torpedoed a new modem owner faster than a loose tongue, or a tongue that doesn't know when to keep quiet and "listen." If you are prone to entering comments rivaling the word count of *War And Peace* you'll find your words summarily passed over and rarely replied to.

And if you become known as someone who can't be trusted with privileged information, you're over before you get in the game. The issue of online privacy is tenuous enough as it is; violate that privacy — in any way — and you'll be a long time regaining any respect.

Allocate Your Time

Using the modem as a procrastination tool eventually catches up with you. If you find yourself logging on when you really should be studying, getting that report done for your boss, or doing your taxes, it's time to reconsider.

Ah, you're nodding your head. You know what I'm talking about. The "online addict." We all joke about it, and say, "It'll never happen to me." But it can, and will, if you're not careful.

Stories abound of people staying up till the wee hours of the morning, charging through one system after another, only to find themselves dragging into work the next morning with an "online hangover." More dangerous are those that find they cannot function without their "online fix" each day.

Newcomers reading this will not believe me. Ask around. The veterans will tell you. It's scary. Some people live their life online, and the "real world" becomes an ancillary reality.

Last, But Not Least

Humor. Don't take yourself, or what's being said online so seriously that you cannot find a spot for humor. We're not taking Superpower Summit Conference level discussions here.

Through all the frustrations and setbacks you'll ultimately experience online, smile. Sound like tripe? Maybe. But I've found that those with an attitude of humor are the most lively and "well-rounded" online personalities.

You don't have to be Bill Cosby or Stephen Wright to keep humor in your online traveling bag. Just take things at face value and learn to see the humor in each and every thing that happens. For better or worse, the ability to laugh at yourself, and the circumstances surrounding your telecommunications, will ensure your success. □

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Resources For The New ST/Mega User

By Helmi Kobler

We're well into the new year and I expect that the ST and Mega users who purchased their systems during the holidays have by now accustomed themselves to the delicate art of pointing, clicking and scrolling, and are ready to get some practical use out of their machines. Whether their applications are strictly utilitarian, such as churning out documents with *WordPerfect*, or more lighthearted, all newcomers should take advantage of some fundamental resources in the Atari community. Exploring your ST alone will only lead to missed opportunities, so let the various Atari magazines, user groups, and online services help you get the most out of your machine.

Magazines

The first thing a new user should do is buy a copy of an Atari ST magazine. Though there are over half a dozen established publications, try to get hold of either *ST X-PRESS* or *ST Applications*. These two monthlies are "home-brewed," published by individuals with a staff of one or two people. Both have modest production budgets and limited circulations, so they lack the gloss found in larger publications, and are likely to be stocked by only die-hard ST dealers. They are broad focused and attempt to cover all aspects of the ST world such as general applications, rumors, new products, and programming and technical issues in various feature articles, columns and reviews. Their writers are usually dedicated ST followers with much hands-on experience. Additionally, their article lead times (the time between an article's submission to the magazine and its publication) are short — usually a month — so information is current.

Exploring your ST alone will only lead to missed opportunities, so let the various Atari magazines, user groups, and online services help you get the most out of your machine.

ST Applications, ($32.50 for 12 issues, 9890 River Road, P.O. Box 980, Forestville, CA 95436, 707/887-7879) tends to overemphasize programming with its regular columns on sparsely-used languages such as Forth, Modula-2 and Prolog, but often rallies around important consumer issues such as poor dealer service and broken promises from Atari and other manufacturers. It has a column devoted to discussing new and upcoming products, as well as one that surveys the best and worst recent software releases.

ST X-PRESS ($35 for 12 issues, $75 with disk, P.O. Box 2383, La Habra, CA, 90632, 213/691-8000) has a strong focus on product reviews, publishing at least a dozen each issue. I recommend *ST X-PRESS* to any user for this reason; the volume of its reviews keeps you informed about important products that may not appear on your local dealer's shelves and would probably go undiscovered otherwise.

Both magazines, however, give you a good feel for what's going on in the ST world.

GEnie

Another way to keep up with the ST world is by subscribing to General Electric's GEnie, a nationwide online information service that can be accessed with your ST and a modem, an inexpensive peripheral that lets computers communicate over ordinary phone lines. GEnie users can join its ST "Roundtable," a section of the service devoted to ST and Mega computers. The ST Roundtable consists of dozens of message centers where callers from around the country converse on just about every topic conceivable: desktop publishing, games, graphics, data bases, sound and music, word processing and more. Under each of these topics are dozens of subtopics, usually focusing on specific products; under the word processing topic, for example, are exhaustive discussions on *WordPerfect*, *Word Writer*, Microsoft *Write*, *ST Writer* and other titles. If you have any question related to the ST, you can find the answer in one of these Roundtable message centers. If your question has not been thoroughly discussed already, and I'd be surprised if it hasn't, there are always a number of experienced callers, or representatives from ST developers such as Michtron, WordPerfect, Soft Logik and other companies, who will be glad to answer it on the spot. Atari Corp. also has its own message center set up where you can speak directly to Atari officials and get up-to-date news about Atari products.

Besides its message centers, the ST Roundtable also provides a large library of public domain software which users can download. Thousands of files are available — tutorials and tips for popular applications, games, pictures, songs, utilities, etc. — and more are added daily.

If you have a 300 or 1200 baud modem, you can join GEnie by calling 1-800-638-8369 in half-duplex and entering "HHH" when you've connected. At the "U#=" prompt, enter "XJM11827, GEnie" and hit return. Have your MasterCard, Visa or checking account number ready. There's a one-time $29.95 registration fee, and a non-prime time $5 hourly fee in effect during weekends and between 6pm and 8am on weekdays.

Besides its message centers, the GEnie ST Roundtable also provides a large library of public domain software which users can download. Thousands of files are available — tutorials and tips for popular applications, games, pictures, songs, utilities, etc. — and more are added daily.

If you don't have a modem but are interested in getting more information about the service, call 1-800-638-9636. Don't miss out on GEnie. Even if it means investing $89 in a 1200 baud modem, GEnie is still an excellent deal and opportunity to get the most out of your ST.

User Groups

Joining an Atari ST user group is often a good way to get valuable information about your machine, as well. Most user groups hold meetings once a month and feature a guest speaker or some new product demonstration. Time is often set aside for informal discussions regarding rumors, new products, bugs in software and so on. Some user groups also sponsor special interest groups (SIGs) that meet apart from the general meeting, and focus on specific topics such as music, programming or desktop publishing. User groups usually publish small, informative newsletters, as well, and compile several useful public domain programs into Disks-of-the-Month that members can purchase for a few dollars.

Be sure to attend a user group meeting if you're new to the ST scene. Your local dealer should be able to refer you to a nearby group, but if not, call Atari at (408) 745-2000 for the name and phone number of the groups closest to your area.

There is an almost overwhelming amount of information to understand and keep track of in the ST world, and without resources such as magazines, local user groups, or an online service, you're bound to go uninformed about an update to some popular software package, or the release of a better printer driver for your printer, or a new set of GDOS fonts, or a hot game, or a new business application that's crippled by bugs. Don't stay in the dark about these things. Take advantage of all the information and expertise offered by these resources. □

Helmi Kobler took his first step into the computer world in 1983 when he walked out of Macy's with an Atari 800 in his arms. Still an Atari user, he's now inseparably attached to his ST. He can be reached through MicroTimes or e-mail <helmi> on The WELL at (415) 332-6106.

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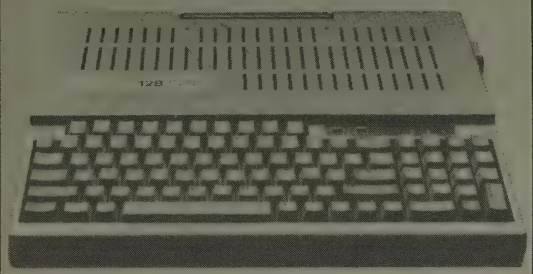

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LINKS

California Lawmakers Meet The Electronic Age

By Mary Eisenhart

Finding your lawmakers less than clairvoyant these days?

Like many Americans, you may well have settled into a certain apathy about communicating with your legislators. You may well think that your voice will never be heard among the chorus of conflicting interests, that individual concerns were made to be ignored.

You might, then, be rather surprised to hear Bob Jacobson, a consultant to the California Assembly Utilities and Commerce Committee working in the office of UCC chairwoman Gwen Moore. After six years in Sacramento, Jacobson is inclined to characterize the capital as an "ivory-walled prison."

"Many members [of the legislature]," says Jacobson, "would prefer to be less dependent on the prepackaged information they get in the capitol from people who are most accessible to them — who are, in fact, lobbyists, or consultants. They would like to know what the public knows or would like to know or would like them to do, and if they had that kind of assurance they would be much braver themselves in taking positions which might contravene the wishes of the people who are around them all day.

"To the extent that we can identify an audience or a constituency and be directly responsible to them, and, conversely, have them directly tell us what they're thinking, what they feel — it liberates the legislators, because suddenly they have communication with the people out there."

Jacobson and Assemblywoman Moore (49th District) are among those most involved in bringing California law and the lawmaking process up to date in dealing with electronic communication and other forms of computer-based technologies. Moore is the sponsor of ACA 36 (see sidebar), which would extend the privacy protections of the California Constitution to computer-based information. It evolved in response to the occasional egregious situation (in one famous case, the Los Angeles Police Department and Public Defender's Office shared the same mainframe, and it was discovered that minions of the prosecution were using this fact to rifle the public defender's files) and a general lack of clearcut policy for handling communication in this new medium. The bill is again up for consideration after a battle of several years; though it's been endorsed by organizations from the ACLU to the Southern California Sysops' Organization, it's faced an uphill struggle against public apathy and legislative ignorance.

Public apathy? Jacobson cites startling numbers. "If you get ten letters on a topic — ten spontaneous letters, not an orchestrated campaign — that is a heavy response. That gets a legislator's attention." In the last year, Moore's office has received approximately 25 letters on ACA 36, a deluge by local standards. Under such circumstances, a single communication carries enormous weight.

In such a climate, the more channels of communication that can be opened, the better — or such was the thinking behind The Capitol Connection, a bulletin board operated by Jacobson as a service of Moore's office. Three years in the planning, the board went online in rudimentary form in April 1987 and currently exists as a multi-featured four-line system.

One of its initial purposes was to offer a channel for commentary on ACA 36, a process that's still going on. But, according to Jacobson, there's more: forums exist to comment on various legislation before the Utilities and Commerce committee on issues ranging from trucking deregulation to nuclear safety. It also includes a Law Ideas conference, which allows callers to propose the kind of laws they'd like to see, which Moore's office in turn refers to the appropriate committee.

The Capitol Connection operates 24 hours a day at (916) 442-0746 (7-E-1), and has upwards of 1000 registered users. Jacobson maintains that the lack of packet-switched access or an 800 number has reduced traffic to an undesirable extent, and he'd like to see this problem addressed in future incarnations of the system. One of the most active crusaders for bringing the Capitol into the information age, Jacobson wants to see the Capitol Connection lead to a far more comprehensive system in which legislative offices were all accessible by modem.

Perhaps the most significant problem cited by both Moore and Jacobson is a general ignorance among legislators and constituents alike about the nature and implications of computer technology. On February 1, Moore's committee will hold an informational hearing at 1:30 pm in which various social commentators and service providers ranging from Pacific Telesis to US Videotel to The WELL will present their services and concerns to members of the committee. Called "An 'Information Age' For Everyone? Telecommunications And Information Services in California's Future," the hearing will address issues including short and long-term forecasts as to what technologies will affect Californians in the next decade, priorities, access, benefits and costs, and other important subjects. The hearing is open to members of the public as well; for further information contact Jacobson at (916) 445-4246.

If the future of electronic communication in California concerns you, write or call the offices of your legislators (particularly the members of the Utilities and Commerce Committee, for whose benefit the hearing's being held) and urge them to attend. Members of the Utilities and Commerce Committee are William Bradley (R-76th; 916/445-8211), Jerry Eaves (D-66th; 916/445-4843), Sam Farr (D-28th; 916/445-8496), Gerald Felando (R-51st; 916/445-7906), Frank Hill (R-52nd; 916/445-7550), Teresa Hughes (D-47th; 916/445-7498), Bill Leonard (R-61st; 916/445-7552), Richard Longshore (R-72nd; 916/445-2778), Steve Peace (D-35th; 916/445-7556), Richard Polanco (D-55th; 916/445-8305), Lucy Roybal-Allard (D-56th; 916/445-1670), and Vice Chairwoman Cathie Wright (R-37th; 916/445-7676).

Says Moore: "Part of the problem is the lack of understanding in general by most who are not involved with computers and don't understand the nature of the beast. The more we can bring our colleagues along, the more we can excite them, the more chance we have for updating and doing creative things in the legislature. Hopefully as an outgrowth of that there'll be new ideas that come to make us more effective in service to our communities, and in making services more readily available to them." (Assemblywoman Moore's office is accessible at 916/445-8800.)

Assembly Constitutional Amendment No. 36

RESOLVED by the assembly, the Senate concurring, That the Legislature of the State of California at its 1987-88 Regular Session commencing on the first day of December 1986, two-thirds of the members elected to each of the two houses of the Legislature voting therefor, hereby proposes to the people of the State of California that the Constitution of the State be amended as follows:

First — That subdivision (a) of Section 2 of Article I thereof is amended to read:

SEC.2. (a) Every person may freely speak, write, publish, or electronically communicate his or her sentiments on all subjects, being responsible for the abuse of this right. A law may not restrain or abridge liberty of speech, press, or electronic communication.

Second — That Section 13 of Article I thereof is amended to read:

SEC.13. The right of the people to be secure in their persons, houses, papers, and effects, including personal information stored in electronic information systems and computer data bases, against unreasonable seizures and searches may not be violated; and a warrant may not issue except on probable cause, supported by oath or affirmation, particularly describing the place to be searched and the persons and things to be seized.

In the continuing onslaught of more powerful machines and spiffier software, providing us with ever-better tools and toys, it's easy to lose sight of another profoundly influential aspect of the personal computer revolution — its impact on the larger community of which computer users usually comprise only a small fraction.

Links is a column dedicated to exploring the role of the personal computer in the community, whether local or global — bulletin boards operated by local governments, computers in the operations of service organizations, the use of computers in grass-roots political and social campaigns, and a host of ingenious applications we haven't heard about yet.

We welcome your feedback and suggestions for future subjects of this column. Please send them to Links, MicroTimes, 5951 Canning Street, Oakland, CA 94609, or send email to microx on The WELL at (415)332-6106.

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The Show Report

By Matthew Leeds

Shows, shows, and more shows. In the last three months I've been to six computer trade shows. There are just too many shows. The cost to attend is too high for many companies and for end users. By the time you calculate the expenses for booth space, electrical power, furniture, trucking, air fare, hotels, meals, lost work at the office, literature, hospitality suites, and what not; it adds up to a very tidy sum. Hardware and software manufacturers are going to have to take a careful look at which shows to attend in 1988 or they will spend all of their time and much of their marketing budgets on shows.

All this aside, I just returned from the World of Commodore Show in Toronto, Canada. This is a Commodore-specific show that has been going on for five years. Attendance over four days is in excess of thirty thousand people, with the bulk coming in the final two days of the show. Commodore Canada co-sponsors the show with the Hunter Group, and it is such a big deal that the local school kids are let out of class to attend.

Unfortunately with so many shows having preceded it in the last few months there was little new to see. One item of interest was Comspec's SA1000 SCSI Host Adaptor for the Amiga 1000. This unique hard drive interface offers auto-booting direct from a SCSI hard disk, and includes a battery backed clock calendar. The SCSI interface has a DB-25 female connector and will work just fine with standard Mac SCSI hard disk units. The interface is fully auto-config and passes the bus. This is the first commercially available auto-booting hard disk for the Amiga. It does not use the new KS 1.2.1 auto-boot routines; Comspec has hacked its own technique into the OS.

Oxxi has worked out a marketing arrangement with the developers of *A-Talk* and will be handling the distribution of that telecommunications program. They will also be handling Benchmark Modula-2, including the compiler, linker, and editor. I spoke with John Houston of Oxxi, and he was very enthusiastic about the release of Benchmark Modula-2. Oxxi has been working with several other commercial developers who have been using beta versions of the language to create their own commercial applications. Modula-2 offers the structure of Pascal with the flexibility and power of C.

Jeff Braun of Inter/Active Softworks, makers of *The Calligrapher*, has sold his company. He will be starting a new software company, devoted to the development of games for the Amiga. New

The World of Commodore Show in Toronto, Canada is such a big deal that the local school kids are let out of class to attend.

offices will be opened somewhere in a lounge chair on the beach, connected to the real world via a cellular phone. John Collins, the new owner, told me that his interest in the Amiga will move Inter/Active in new directions. His background in high end broadband communications could provide some hints. Not to worry, he views *The Calligrapher* as instrumental to the success of his new venture. Support and enhancements will continue.

Look for a new word processor from the folks at Micro Systems Software, developers of *Scribble!*. Rumors have been flying regarding this new program, from its being a *WordPerfect* clone to it being a fully programmable, create your own interface, text editor. The truth is simpler, and the sneak preview I had looked more like a *TextCraft Plus* clone than anything else. I'll keep my eyes open, and perhaps I'll be able to tell you more later.

Ahoy magazine, long a favorite in the C64 and 128 markets, is starting an Amiga magazine. This brings to almost a dozen the number of publications that are already available, or soon to be released that are specific to the Amiga. This latest entry will be a quarterly. Look for the first issue on the stands around April.

Hypertek/Silicon Springs Development has acquired a public domain program *G.O.M.F.*, and upgraded it and released it as *G.O.M.F. 2.0*. *G.O.M.F.* is an error handling and trapping program that can eliminate Guru Meditation Alerts. *G.O.M.F.* (Get Outta My Face) intercepts errors as they occur, offers plain English on-screen advice on how to cope with system errors and provides the tools for doing so. This new version of the program goes a long way towards user friendliness, but using *G.O.M.F.* is still a lot like picking up a surgical knife and performing brain surgery with no training. It offers a tremendous amount of power and control over the Amiga, but without a tremendous amount of understanding of how the Amiga operates you could easily crash the system yourself.

Hypertek also showed a TTL interface that plugged into the RGB port of an Amiga, and provided flicker-free high-resolution monochrome output on a standard TTL monitor. The interface has an RGB pass-through port. Hypertek also showed a lightpen and a MIDI interface for the Amiga.

The Disc Company showed *Kind Words*, a word processor that incorporates multi-color graphics. The program has a lot of great features. In many ways it feels like *MacWrite* or *ProWrite*. It uses rulers to control margins and tabs, is WYSIWYG on-screen, uses multiple fonts, has mail merge capability, headers and footers, super and subscripts, on-line help, auto page numbering, decimal tabs, and is not copy protected.

Of special interest is its ability to import IFF graphics into a document. Although text cannot appear on the same lines as graphics, you can crop and size your graphics on the page. This is a remarkable addition to a word processor. Color graphics are supported in up to 16 colors. Also of special interest is *Kind Words'* use of special printer drivers to get very high quality output. A full set of *SuperFonts* are included in the package that are downloaded to your printer to get impressive quad-density text and graphics. Oh yes, I almost forgot to mention the 90,000 word spelling checker included with the program.

If you get the feeling I'm impressed, you're right. While I wouldn't use *Kind Words* to create the great American novel, it does excellent service for the bulk of my word processing needs. Check it out. □

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Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software.

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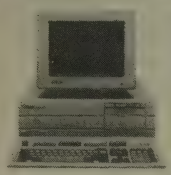

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WordStar 4.0 For CP/M

By Robert D. Athey Jr.

The new *WordStar* (version 4 for CP/M) came out late last summer, and MicroPro is offering upgrades for any registered users of older versions of *WordStar* or *NewWord*.

Opening the package was a surprise, as I'd asked for the standard Kaypro II package, assuming it would be two or three disks. The package contained two boxes, one with the manual, and the other with the "installation kit" — with six disks! It turned out to not be all that complicated, however.

The installation program was easy to run, and had menus to guide you to the next item needed. The program supports over 20 types of terminals (translate as computers, shown in the tabulation) and over forty types of printers, including HP LaserJets. It was easy to configure for my Itoh Prowriter (8510A) — some software companies don't support it — as it is in the WINSTALL program. I don't understand the approach of using two printer installation overlays, however; it seems unnecessarily confusing.

The new *WordStar* has a number of features incorporated from the *NewWord* program, as a consequence of MicroPro's purchase of NewStar, the company that produced *NewWord*. I asked Stan Reynolds of NewStar about adding math capabilities to the CP/M *NewWord* two years ago. He said it couldn't be done in the 64K allotted in CP/M. *However*, the new *WordStar* does have a little calculator built in, and it's very handy for doing up invoices or proposals where simple columns of figures need adding or a percentage needs to be applied. And the new *WordStar* uses only 54K!

A feature of *NewWord* I really liked, the UNDELETE for an erased line, is in the new *WordStar*. I use it frequently as a copy and move technique without marking a block — nice for making up tabulations. It's also a way to move a sentence from the end of a paragraph to the middle where it belongs, after re-reading what you wrote.

A new feature for *WordStar* is the library of "macros" you can build. These can be the simple repetitive commands you use a lot, or they can insert the signature line or letterhead with two keystrokes per line inserted. I've rigged mine both ways. You have one limitation here at 256 total characters to be defined. I didn't find that a real handicap, however.

I was intrigued by the technique used to make up macros with control or escape characters. You use a special command that tells the computer to get ready for a non-letter/number as the next character. You'll need it to put in a carriage return within a macro, as the program thinks you are finished with the macro entry when you press a carriage return.

Naturally, I've used the program quite a bit since I received it in September. Indeed, I took the Kaypro with me on a vacation to the Big Island to finish a book chapter I was writing. I started the evaluation there, and the installation was no problem. Within six days (at about four hours a day, as I did have to snorkel and tourist, too!) the book chapter was up to 57K. I also used it to bang out several merge letters to family and a committee with a chemical problem I'm working on. I found that one cannot merge a mailing list within a merge letter set, even though they use different data files. Ah well, it's no big deal to print them separately and collate before mailing.

Since I use a variant of ZCPR, the offer of supporting ZCPR3 was intriguing, to say the least. It boils down to an internally supported path that directs the computer to go to the default disk to look for *WordStar* and its overlays automatically. So you can log into your B: drive and just type in "WS" and the opening screen shows up just as if the *WordStar* was on that disk.

The *WordStar* program comes not only with its overlays and related support programs, but with other goodies, as well. There is a great spelling checker in the *WORD+* program, along with related files. One does all possible anagrams of any set of letters (what a help in Scrabble!), and another will search a sequence of letters and spaces for missing letters for all fits in the dictionary (crossword puzzle helper!). There are also programs to count all the words in a document, and to determine the frequency of usage of any one (or all) word(s). The *Word+* is the real benefit, though. It is a well known, top rated spelling checker by Oasis Systems, and it's a great deal to have it packaged with *WordStar*.

The MicroPro people have become a bit more customer support-oriented, too. That's shown first of all by their upgrade for all the ancient users of *WordStar* in CP/M (It's nice to know a big company hasn't written us off!). Secondly, they answer calls and letters quickly, whether it's on the program offerings or on a user query as to how to make the labeling work on mail-merge. In addition, someone from MicroPro will come out to your user group meeting, and talk, and even offer a group discount on upgrades or new user purchases. Commendations for MicroPro!

CP/M Road Tales

As I said before, my evaluation of *WordStar* started on Hawaii. I've been carting the Kaypro around in airports for years, with no problems. As soon as I checked it with a games disk after my Saturday afternoon arrival, however, the screen image had shrunk to a small vertical line about an inch long about two thirds up in mid-screen. I called the computer shops in Kona and Hilo, and was told that they were closing in a few minutes and didn't handle CP/M machines, anyway. ARGHH!

On the last shop I called in Hilo I hit pay dirt. The technician told me what to check out (pull the cover off? me?), so I could save the three hours driving time, and the $85 minimum charge. He suspected I'd jostled loose a simple plug in connection to the screen power supply. The hotel electricians came up when I called and volunteered to do the screwdriving, and look at what he suggested. No Help, but a great try.

Off to Hilo on Monday and into the shop before lunch. The technician had it fixed an hour after lunch. A soldered connection had broken, and he was "lucky" to find it. I'd instantly thought of all the really good workers in any field that just seem lucky because they know what they're doing. I checked the computer out with my own disk on his work bench, and was back to the Mauna Kea before dinner, most pleased with "The Computer Store" of Hilo.

As I've said before, service is where the small computer store will make and keep its friends and customers over the long haul. Fortunately, we have a similar store in the East Bay, the El Cerrito Heath Zenith store. Bob Dang, the manager, emphasizes service, even to the point of someone coming to your site to take care of nasty problems.

As a last note, not pertaining to *WordStar* 4, I recently received a brochure on a new publication called *Science Software*. As my business includes scientific applications of my own computers, it looked interesting. Order from John Wiley & Sons at (800) 526-5638. I plan to give it a review as soon as they send it. □

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- Morrows MDT 20, 60 and 70

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contact research. He can be reached through MicroTimes *or at (415) 526-3541.* *Copyright © 1988 by Robert D. Athey Jr. All rights reserved.*

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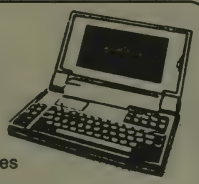

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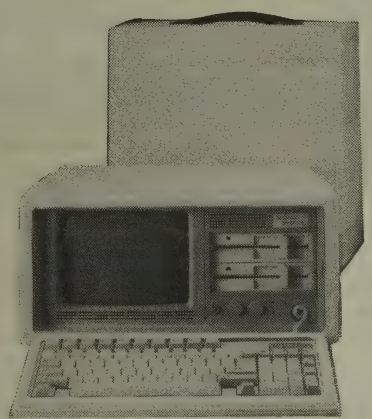

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The IIGS Bookshelf

By Mike Markowitz

After paying for the computer, the monitor, two kinds of disk drives, the printer, the memory expansion card, and Woz only knows what else, the typical IIGS owner may not have much left to spend on books. After acquiring *DeluxePaint*, *Multiscribe GS* and a few games, the lucky owner may not have much time or inclination to read, either.

Nevertheless, computer book publishers are a hearty and daring breed, and along with the soaring sales projections for the IIGS, a boomlet in new titles about our new machine seems to be underway. Books about the Apple IIGS fall into two main categories: official and unofficial. The official books carry Apple's blessing and are handsomely published by Addison-Wesley of Reading, Massachusetts. The unofficial titles come from a handful of big and small publishers.

The official books are part of Addison-Wesley's Apple Technical Library, which is authored anonymously by Apple's own tech writers. They are printed in two colors, well-illustrated with charts, diagrams and schematics and thoroughly indexed. Mainly intended for programmers and product developers, they offer a wealth of tantalizing information to the general hobbyist about hidden capabilities and not-yet implemented features of the computer. Titles include:

Technical Introduction To The Apple IIGS ($9.95) an overview of the design, system architecture, programming environment, Toolbox, graphics modes and sound, details the differences between the IIGS and earlier Apple II models.

Apple IIGS Hardware Reference ($24.95) required reading for hardware developers, this volume provides mechanical and electrical specifications for all the internal and external connectors, and details the workings of the slots and ports.

Apple IIGS Firmware Reference ($24.95) describes the programs and subroutines stored in ROM, except for AppleSoft BASIC and the Toolbox (which have their own manuals). Also describes the new IIGS Monitor, a low-level programming and debugging aid for assembly language programming.

ProDOS 16 Reference ($29.95) detailed description of the new IIGS operating system. Includes a 3.5" disk with a small Exerciser program that lets the user practice making system calls.

If you're a programmer and you can only afford one book on the IIGS a good bet would be Gary Little's *Exploring the Apple IIGS.*

Coming soon will be the two huge volumes of the Toolbox Reference ($26.95 each). The draft version, which has been available through the Apple Programmer's and Developer's Association, reportedly runs to over 1500 pages.

One volume in the Apple Technical Library that is indispensible to programmers but accessible to even the most non-technical user is the *Apple Human Interface Guidelines* ($14.95). This slim volume (144 pages) defines the desktop "look and feel," which Apple considers to be its most precious corporate asset. It is equally applicable to any Macintosh or Apple II computer, but the advice on how to use color and sound are particularly important to the IIGS community.

If you're a programmer and you can only afford one book on the IIGS a good bet would be Gary Little's *Exploring The Apple IIGS* (535 pages, softcover $22.95). Although published by Addison-Wesley, this one is not "official." It presupposes some acquaintance with assembly language, or at least a willingness to wade through program code. A disk with all the programs in the book, plus some useful utilities, can be ordered for an additional $20.

The rate at which things are changing in the IIGS world means that the reader should probably avoid any IIGS books with a publication date earlier than 1987. Stay away from books that just rehash what's already in your User Manual. It's a complicated machine. You won't understand everything the first time. Stretch your mind. That's what you bought a computer for, isn't it?

In future columns I hope to explore IIGS memory cards, hardware add-ons, and programming languages. No, I haven't forgotten the millions of other Apple IIs out there. I'm planning a roundup and roast of recent game software. Let me know what you like and don't like. Write to:

Mousekowit
27425 Abanico
Mission Viejo, CA 92691-1101

Another book worth noting is the second edition of *AppleWorks* by Charles Rubin, published by Microsoft Press (softcover, 320 pages, $18.95). This edition documents all the changes in Version 2.0 of our beloved integrated productivity tool. The rather tricky new MailMerge routine is covered in detail, and an Appendix gives capsule reviews of a wide range of *AppleWorks* add-ons. Some reviewers are too polite to point out that books about *AppleWorks* enjoy a thriving market mainly because so few users bother to actually purchase a legal copy of this splendid program. *AppleWorks* has an excellent manual of its own, but this fact is likely to remain obscure as long as Apple continues to treat its most successful software product as an unwanted orphan.

RESOURCES:

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(617) 944-3700

Apple Programmer's and Developer's Association
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Renton, WA 98055
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Microsoft Press
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Mike Markowitz is a computer engineer for a large Southern California aerospace firm. He has been writing about Apple II hardware and software since 1984. *Copyright © 1988 by Mike Markowitz.*

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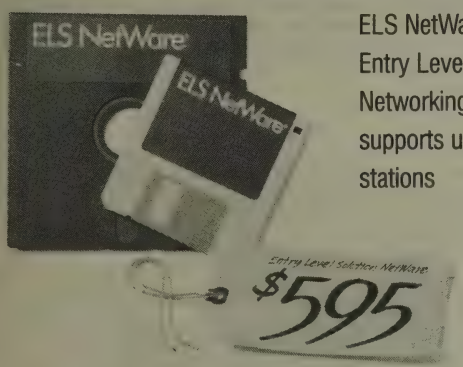

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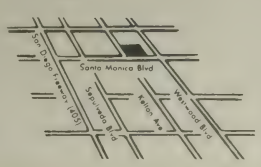

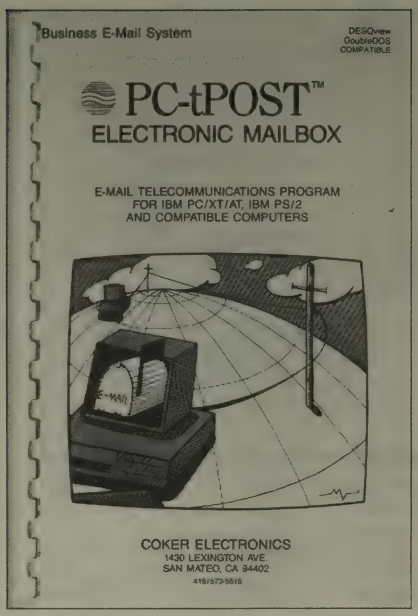

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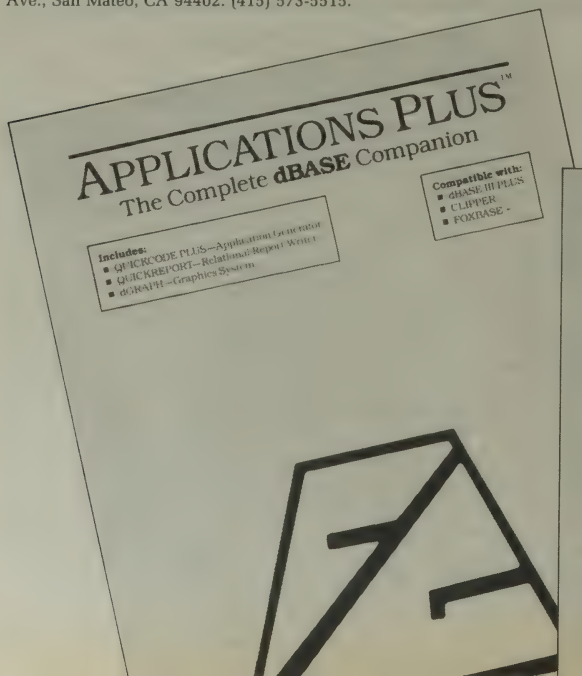
For The Armchair Accountant: Dac-Easy Light

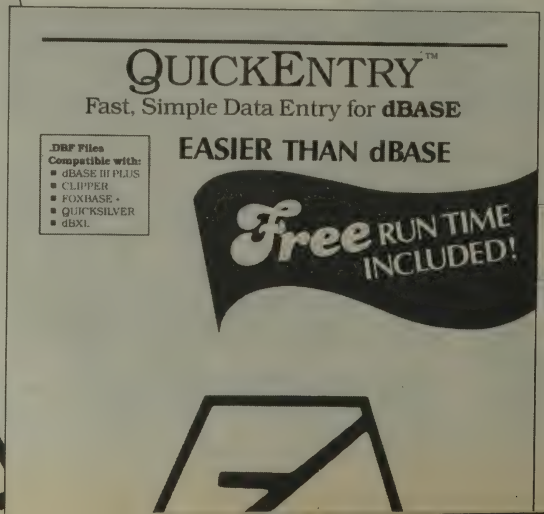
If you always wanted to be an accountant but didn't have what it takes, *Dac-Easy Light* is a home and office accounting package that lets you take charge of your finances. For the home accountant *Light* includes a preset home chart of accounts. It allows you to set up bank accounts, enter deposits and withdrawals, update account balances and make adjustments to monthly statements. It also allows you to write checks by computer. For the office *Light* has a pre-defined small business chart of accounts where you enter customers and vendors and process invoices and checks. You don't need to know about debits and credits, as *Light* does all the necessary accounting transactions. Dac Software, 4801 Spring Valley Road, Bldg. 110-B, Dallas, TX 75244.

Two Packages For The dBASE User From Fox & Geller

Applications Plus and *Quick Entry* are two packages that make using *dBASE* faster and easier. *Applications Plus* is a combination of Fox & Geller's three popular applications, *QuickCode Plus*, *Quick Report*, and *dGraph*. With these enhancements the user can automatically create bug-free applications, produce presentation quality reports and make high quality graphs. The $499 price for *Applications Plus* is below that of the three enhancements sold separately. *Applications Plus* is 100% compatible with *Clipper* and *FoxBASE+* as well as *dBASE*.

QuickEntry is a standalone product that lets you easily enter data into *dBASE* databases. It does not require *dBASE* to run or any knowledge of *dBASE* to use. *QuickEntry* uses simple menus to help the user create entry forms and enter data. ($99.) Fox & Geller, 604 Market Street, Elmwood Park, NJ 07407. (201) 794-8883.





Changes Coming Real Soon Now

By Mary Eisenhart

Next month will see our long-awaited all-new user group and BBS listings; if you haven't sent in your update by now, it won't be appearing. But take heart — fill out the form conveniently included in this issue, send it in, and we'll get it in the May issue if it arrives by March 1.

The biggest problem we're encountering in dealing with the new listings is that there's a sizable minority of people who are still sending listings which rival the *Encyclopaedia Brittanica* in length, in spite of our entreaties to keep them to 15 words. As a result, the long listings will be cut to 15 words by us instead of their authors, a situation with very little appeal to anyone. (Least of all the estimable **Rob Beauchamp, Editorial Assistant,** who's in the process of performing this thankless task even as we speak.)

Reluctant as we were to adopt a length limit, and much as we understand a sysop's zeal for singing his board's praises as eloquently as possible, it simply isn't manageable (in terms of space consumption or keyboarding labor) to print long listings. True, some boards have features rivaling those of a Mercedes, but we simply can't list them all. So please, in the interest of preserving continued free listings, abide by the 15-word limit. Think of your listing as a pointer to your board or club, rather than a promotional catalog, and try to write the listing for maximum impact and usefulness. Thanks.

One thing we might suggest, for groups with an enormous number of Special Interest Groups with different meeting times and dates, is that each SIG should send in a separate listing with SIG-specific descriptive information. Since some of the larger user groups have upwards of ten or twenty SIGs, even my hatchet-wielding persona realizes that you can't put all that information in 15 words.

On a slightly happier note, I'm glad to report that, whereas it was temporarily necessary (during the space crunch caused by old listings) to stop running out-of-area BBS listings, we will restore SoCal listings to NoCal, and vice versa, starting next issue. So all those outlying boards will once again be easy to find.

Speaking of outlying boards, Singapore seems to be a hotbed of them. Last month brought us a listing from **N.M Rahman's Cassia Express BBS** (065-344-9163); this month brings us the **Remote Bulletin Board (Singapore),** operated by **Umar A. Rahman.** The board has two nodes — 065-445-1646 and 065-242-7669 — and operates 24 hours a day. It offers 218 megabytes of IBM ul/dl and supports 1200, 2400, and 9600 baud modems.

From **Ari Davidow,** contributor to these pages and co-host (with **Maurice Weitman**) of the **Jewish Conference on the WELL** (415/332-6106), comes word about **KesherNet,** a Fido-based network linking Israel and the US. He characterizes the contents as "Torah, Hebrew, general schmoozing and an Israeli classified section." (Ari's also been posting some Israeli political debate from the net on The WELL, which has been leading to some interesting long-distance conversations.) Sysops who'd like to carry the KesherNet echoes on their systems are invited to contact **Dick Fiedler** (115/940), (312) 940-1696. And California-based interested parties are invited to check out **Henani** (143/444), (415) 855-9548, or **The Philosopher's WOC OPUS** (103/507), (714) 535-1258.

Kenneth Roach of Manteca sends an updated listing for his **Bertha Board,** which operates 24 hours a day at (209) 239-9853, 300/1200/2400, 8-N-1. It offers uploads and downloads and has some emphasis on programming and MS-DOS. Ken mentions in passing that modem traffic is a little light in Manteca, so give his board a call and tell him *MicroTimes* sent you!

Jim Rankin of San Francisco informs us of two boards currently running on a single line (415/731-2422) but due for independent existence soon: **The Nightingale BBS,** a pilot project for a BBS for nursing students and faculty at UCSF in San Francisco, offering messages, news, mail, open forum and downloads, and **The Pilgrim BBS,** which emphasizes spirituality, Catholic nursing, and the spiritual development of homosexuals from a Catholic perspective.

Wallace Lin of Sunnyvale sends word of the **Stock Market BBS** (408) 733-9341, 300/1200, 8-N-1, which runs 24 hours a day as a multi-user, multiline system. It offers price forecasts for 6,000 NYSE, AMEX and OTC (NMS) stocks. Wallace adds that the board has been rated by stock traders and investors as the best BBS of its kind, so check it out, whether your portfolio is real or imaginary.

James Arnold of **Kortek,** a telecommunication software firm in Sunnyvale, invites you to call the company's bulletin board, which is free, at (415) 327-4589, 24 hours a day. The board focuses chiefly on public domain software for IBM and MS-DOS computers, and welcomes user suggestions for improvement and expansion.

If you're someone who works in emergency services, you might want to check out the **911 Emergency Services BBS** at (707) 664-1639, 24 hours a day, 1200/2400/9600 (Fastcomm) baud. Sysop **John Wilson** invites fire-people, police officers, other emergency service employees and interested members of the general public to call and contribute to the discussion.

Meanwhile, while we're waiting for all those spiffy new listings, we've got some **User Groups On The Move.** Faithful correspondent **Curtis Jones** of **APLBUG** informs us that I.P. Sharp, in whose offices the club's monthly meetings are held, is moving to 425 Sherman Street, Suite 200, Palo Alto. Consequently, the meetings, which continue to be held on third Mondays, are moving to the same address. Call Curtis for more info.

The **Atari Computer Association of Orange County** also has a new meeting address: Room W101, near the gymnasium of Rancho Santiago college at the intersection of Bristol and 17th in Santa Ana. Call the group's hotline at (714) 838-3099 for more info.

Regrettably, **Ross E. Voyles** writes to tell us that the **Stanford Morrow Users Group** is disbanding after its January meeting; Morrow users in need of support for their CP/M machines would probably do well to check out other CP/M groups in our listings. So long, SMUG, and thanks.

Gloria Hutchinson of Vallejo passes along the news that the **North Bay Users Group** is no longer meeting at the Cave School on Tuesday nights, but has changed to second Thursdays at 201 Maine Street in Vallejo. If you'd like more information, call (707) 644-9327 or write to P.O. Box 7156, Vallejo, CA 94590.

Finally, **Andy Breglia** of **FUNHUG** (Fremont, Union City, Newark, Hayward User Group) Commodore updates us with the news that the group has returned to its Commodore-only origins, and the IBM branch of the family has formed its own group. The club now meets at the Newark Public Library, 6300 Civic Terrace Avenue, Newark, on the third Thursday of the month.

That's all for now; see you next month with our New, Improved, Spiffy Updated Listings. And keep that info coming to us via Snail Mail at 5951 Canning Street, Oakland, CA 94609, or send email to microx on The WELL (415) 332-6106. □

BULLETIN BOARDS

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Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include employment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882. Open weekdays 4 pm - 2 am, weekends 12 pm - 2 am. A Commodore 64 system.

HUG1. (213) 874-8256. 300 1200 baud, 8-N-1, 24 hours. The official BBS of the Hollywood Commodore User Group (HUG). All HUG members and visitors are welcome to drop by. Sysop: Jose Vasques.

International Collectors Network. Coins, stamps, baseball cards, books, records, antiques and anything collectable can be bought, sold, or traded on the International Collectors Network BBS. Regional lists of collector events and shows in many categories. Also names and addresses of many collector organizations. Accessible using PC Pursuit. Data phone available 24 hours, 7 days at 300/450/1200/2400, 8, N,1. (213) 204-0646.

The Computer Consultant's Network, (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

Computer Conference Center. (213) 212-5267. TBBS w. Commodore, IBM, TI, Atari, Epson, Apple etc. sub-boards. Large DL with CP/M, MS-DOS and TR-DOS programs. Laurie Flood, sysop.

Hughes Aircraft Message Service. Uploads and downloads for Mac, IBM, Commodore, Atari, etc. Public message boards. (213) 549-9640. 300 1200, 24 hrs., 7 days.

Monolith-1.7 great public boards, private electronic mail, social events. (213) 659-JEDI. 24 hours, 1200.300. Sysop Erik Goldman

Mid-Cities Atari ST BBS. 300 1200, 8-0-1, 24 hours. (213) 867-1943. Sysop: Darin Ferraro

PC Heaven. A multi-computer BBS that features downloads for many different PCs. E-mail, files for various machines, general to SIG message bases. No fees, no special application request forms. Just a fun BBS for everyone. (213) 374-7929. 300/1200, 7 pm-7am M-T, 24 hrs. F-S-S. Sysop: Tony Reeves.

T.U.S.D. (213) 533-4545, 10+ megs downloads, WWIV software. BBS list, several message bases and SIGs, mail, online help. Run on IBM AT, 24 hours for summer (5pm-7am during school). Free, 300/1200 baud. Sysop: Wayne Hoover.

Jukebox Bulletin Board (JBBS) (213) 670-8053. 8-N-1, 24 hours, 7 days, 300/1200 baud. Message board for buyers, sellers, and anyone interested in antique jukeboxes. Free. CP/M password available on request. No Fees. sysop: Ray Etchepare

Secret Partner 1. (213) 543-5273. 8-N-1, 24 hour. 300/1200 baud. "Find your long-awaited sweetheart." Walter F. Howard. sysop

Time-X-Change. (213) 329-3922. 8-N-1, 300/1200 baud, 24 hours. The West's only BBS dedicated entirely to the Timex-Sinclair and CP/M user. Online games and information programs, full feature electronic mail and message system. public domain software. Free. Sysop: Dave Clifford

Videoman RCP/M and Media Man Database. (213) 666-8588, 300/1200 baud. Hollywood's only remote computer for the show business and entertainment community. Free comprehensive databases, including hard-to-find products and services (US and Canada), television/motion picture production post production services (worldwide), Los Angeles restaurant guide, remote access computers (world-wide), People In Entertainment and many more. CP/M, MS-DOS pd programs. 40 megabytes and growing. 7 days, 24 hours. Sysop: Norman H. Strassner

Bloom County "Nochange" BBS. (213) 615-0528, 8-N-1, 24 hours, 7 days, 300/1200/2400 baud. Bloom County is an IBM BBS running Nochange software. This system features online games including Pyroto Mountain, 200 Sector Tradewars, Empire, Original Adventure and more! There are over 30 megs of space devoted exclusively to the latest 9D software and a great e-mail system too. Call the ultimate bulletin board today. Sysop: Brody Schiess.

Find-A-Home. BBS emphasis on locating roommates, tenants, rentals, buyers and sellers for both residential and commercial properties. Also private mail and public forums including roommate discussions, deal-

ing with landlords, foreclosures, real estate matters, investment opportunities, money matters, employment opportunities, current events, automotive, classified ads, humor, trivia. Operating on an XT clone with 20MB hard disk at 300/1200 baud. Online 24 hours. We're a new and free service. Call now! (213) 325-7269. Sysop: Ada Owen.

99 BBS. (213) 947-7777. 7 bits, even parity, full duplex, 300/1200 baud. For TI-99/4A computers. Operates 24 hours, 7 days. Downloads, uploads, multiple message boases and more. Sysop: Roger Davis.

CompuCenter Long Beach. (213) 421-1041. 8-N-1, 24 hours, 300/1200. Multi-interest board in Long Beach with everything from Aviation sub-board to Mature Topics and IBM, C64/128, and Amiga. Sysop: Ken Cothern.

Intelligent Solutions BBS. (213) 494-1243. IBM software and hardware tips. No registration, no rules, no restrictions to new users. Easy-to-use PC-Board system. Our user base consists of some of the most knowledgeable consultants and programmers in Southern California. 300/1200/2400 support vice, 8-N-1, 24 hours. Sysop: Thompson McDonald.

The Talk Line. (213) 938-9697. 3 message bases: general board with discussions on current subjects or anything anyone wants to debate, a sports board and a music / movies board. 6 pm-7am. 300 baud, 1 stop, 8 WL, no parity, full duplex. Sysop: Frodo.

The Starship Sardonyx Net. (213) 467-6667. 8-N-1, 300/1200, 24 hours. We offer extensive general files, online games, up and download subs, 8 message bases, e-mail. Large public domain section for Commodore users. Sysop: Zed Yago.

LEGACY/The Law Network. Free exchange of messages and information on Computer Law, Entertainment Law, and Communications Law, and forum for new ideas and directions in the practice of law and administration of justice. Features include e-mail, online law journal, standard legal forms and agreements, and a pro bono conference for free legal advice to non-lawyers. Operating 24 hours at 1200 baud, 8-N-1. Accessible using GTE's PC Pursuit. Call (213) 553-1473. Sysop: Robert H. Kohn, Esq.

BBS-64 Shopper. (213) 598-5841. 8-N-1, 24 hours, 300/1200 baud. Sysop: Scott D. Edson.

K&L Tele-Catalog. (213) 327-2255. 24 hours, 300/1200, 8-N-1. 27 sub-boards including electronic and computer shopping, general board, game boards, club boards, classifieds, tips and tricks. No fee. Sysops: Louis B. Dubin, John Altpeter.

Atari Telecom. (213) 494-7083. 24 hours, 300/1200 baud. Supports all Atari computers. 20+ megs online storage. 16+ SIGs for discussion. Online games, role-playing games, ATASCII graphics, large online info libraries, ul/dl. Standard parameters. New users needed! Sysop: Dr. Matrix.

The Crest RBBS. (213) 471-2518. Call for one of the best IBM RBBS around, running with the latest merge for RBBS-PC. Win free time weekly with secret password. Features include the latest e-mail, ul/dl, color/music online. Best of all it's FREE! Operating 24 hours a day at 2400/1200 baud. NO 300 BAUD ALLOWED! Sysop: Eric Newhouse.

The Luv Connection. (213) 663-6886. 300/1200/2400 baud, 8-N-1, 24 hours. Nine lines, private e-mail. Chat online with other users. 28 different boards to access in the Tack Room: The Perfect Matchmaker, Dating, Music/Video/Film, Sports, Robotics, Computer Stuff, Programmers Lounge, Handicapped (Physically Impaired), Sauna, Men's Locker Room, Powder Room, Take Aim. The largest library in SoCal for the latest demos and Public Domain programs for D/L. Luv Connection Network offers true nationwide networking. Prime sysops: Todd & Charlotte.

LAAUG-LINE. (213) 559-7367. 300/1200, 7 days a week, 24-hours. Sysop: Gary Woolard.

Hollywood Commodore User Group Hug #1. (213) 466-3049. 8-bit, no parity, 1 stop, 24-hours, 300-1200 baud, running on C-NET. Sysops: Joss A. Vazquez & Zed Yago.

Alinco Ind. RBBS. (213) 402-4716. 300/1200/2400 baud, N-8-1. Upload and download of public domain files. E-Mail, conferences: games, communication and technical references, systems and peripherals price list. This is a totally new board. Sysop: Albert Chang.

Long Beach AIDS Information BBS. (213) 663-2025. 24-hours, 300/1200 baud. Information on AIDS issues, especially experimental drug therapies. Also serves as a forum for discussion. Sysop: Ken Ragge.

The Long Beach Bulletin Board. (213) 438-6783. N-8-1, 24 hours, 300/1200/2400 baud. The Long Beach Bulletin Board has been in operation for over three years supporting 3000 plus users. We have over 60 megs online with over 1500 files for downloading. Special Interests Groups include AD for BBS notices and sale items, CD for all CAD/CAM applications, COMM for discussing communications topics, GAMES, MIDI and STARFLT. All SIGS are open to the public. Call one of Southern California's oldest RBBS systems in operation. Sysop: Forrest Litke.

Landing Strip. (213) 597-7773. 300/1200, 24 hours, WWIV software. A computer board service dedicated to aviation and online adventure games. Features aviation related downloads for IBM computers and has download areas for Apple and C-64. Unique online games that must be played to be fully appreciated. Sysop: One-Eight Charlie.

Chat Line. (213) 534-4311. 24 hours, 300/1200 baud. Multi-line, multi-user. Interactive chatting between online users. Downloads for all popular computers. Innovative and informative public message exchanges. E-mail. Sysop: Tony Broderick.

Digital Diversions. (213) 423-5797. 24 hours, 300/1200/2400 baud. Accessible through PC Pursuit. On-line 24. Fun and friendly. File transfers. Special interest groups. Give us a try! Sysop: Jeff Glassman.

LA Sportsbook. (213) 545-6528. 8 bit, 1 stop, No parity, 24 hours, 300 baud. For the sports and horse racing fan in Southern California. Talk sports and horses. We pick winners at better than 50%! Sysop: Rich Kopro a.k.a. The Sports Master.

Melodyland BBS. (213) 225-9279. 8-N-1, 24 hours, 300/1200 baud. Melodyland is a message only BBS with several conferences filled with stimulating discussion. Also features a "Friends of Bill W." area specifically created for members of Alcoholics Anonymous and other 12-step programs. The AA section features a local "e-meeting." Melodyland is a participating node in the Recovery National Network, a nationwide "echo" for members of the 12-step programs. Sysop: Melody

(PG) Board. (213) 836-6439. 24 hours, 7 days, 300/1200 baud, 8-N-1. Relationships, sexuality, money, morality, economics, politics, religion, art, music, literature, theatre, philosophy, the nature of the mind. If they mean a great deal to you, please give us a call. No uploading or downloading. Conversation only.

CompuCenter/LA. (213) 435-3757. 8-N-1, 24 hours, 300/1200 baud. Multi-user board including conferences for Amiga, IBM, C64, C128, TRS-80. Reviews on software and hardware. For Sale section and much more. Up/Downloads section for all listed. Sysop Rick Gaspa.

Ump's Video/Communications BBS. (213) 413-1146. 300/1200 baud. 4:00 pm to 2:00 am. Hundreds of video/movie titles waiting for you. If you're a serious videomaniac and absolutely must have your very own copy of "Porky's," "Dracula," or "Rocky IV," we've got all the titles you'll ever want. R, PG and G ratings. Drama, Horror Thrillers, Musicals, Sci-Fi, Comedy and Classics. To order, complete the order form in the order file or call us directly at our Los Angeles office. Also available to users is our Resume Transmittal Service. Input your resume onto our transmittal file. Each month we mail over 200 transmittal diskettes to companies looking for skilled people throughout Southern California (soon to be a nationwide service.) No fee for first time users. Sysop: Stephen R. McCormick.

Gladiator's Den. (213) 860-2221. 300/1200 baud, 8-N-1, 24 hours.

Computer Quick, Inc. (213) 941-3554. 300/1200 baud. Even, 7 data, 1 stop. BBS dedicated to repair, upgrade or information on computers only. Sysop: Sam Noonon.

Spenser's BBS. (213) 732-0109. 8-N-1. Sysop: Chris Spencer.

Amiga Exchange. (213) 325-1796. 300/1200 baud, 8-N-1, 24 hours. Downloads, uploads, e-mail, news, rumors, operating tips, hardware/software reviews, classified ad section. This is a new BBS. Sysop: R. Takahashi.

The Westside. (213) 933-4050. 300/1200/2400 baud, 8-N-1, 24 hours. Ten lines with private and group chat, e-mail, match, 30 public message and game boards, on-line library and electronic buyer's guide/database. Sysop: Dave.

Star Wars Lovers Of America (213) 867-7724. No modem. 9:00 am–12:00 pm. Run by the Driveway Group Ltd., User Group. Devoted to LucasFilms and Star Wars. Tracking of software, figures, data and more. If you have the SW collection, figures, any software that pertains to SW then call. We could buy, sell, trade, items. Information on new releases from George Lucas. We love Star Wars and George Lucas. If you do too, then call. Sysop: The Force.

The Beta RBBS. (213) 393-9777. 1200/2400 baud. No 300 baud allowed. 24 hours. New feature articles for audio and videophiles. A special emphasis on the latest video technology. Other recent additions include movie and concert reviews and movie news. Beta RBBS is not another downloading service but a BBS that entertains with informative bulletins and lively discussions.

Easy Reader Newspaper. Electronic edition. Available on TeleWeb. (213) 372-4050. 7-E-1, Type GO EASY upon entry. Includes movie listings, classifieds, articles. Order classified ads on-line. Send letters to the editor.

LA Weekly Newspaper. Electronic edition. Available on TeleWeb. (213) 372-4050. 7-E-1. Type GO WEEKLY upon entry. Includes entertainment listings. Order classified or a subscription on-line.

MicroTimes Magazine. Electronic edition. Available on TeleWeb. (213) 372-4050. 7-E-1. Type GO MICRO upon entry. Includes articles, BBS listings and much more. Unlimited free access.

Hughes. Support system. Available on Tele-Web. (213) 372-4050. 7-E-1. Type GO HUGHES upon entry. Online career center. Over 100 job opportunities. Send resume direct to Hughes.

Rockwell. Available on TeleWeb. (213) 372-4050. 7-E-1. Type GO ROCKWELL upon entry. El Segundo, online career center. Engineering and management job opportunities. Send resume direct to Rockwell.

Mortgage Loans. Available on Tele-Web. (213) 362-4050. 7-E-1. Type GO LOAN upon entry. Mortgage loans and discount loan rates. Online 24 hours a day. Provided by Pacific Mortgage Group, suppliers of discount home mortgage loans.

Hatziacha. (213) 466-3861. 300/1200 baud, 8-N-1. Jewish BBS running Stonhenge Computer Message System. Also general PC-compatible discussion.

The Hotline. (213) 285-0810. 300/1200/2400 baud. 24 hours. Multi user. Affiliated with the National Data Broadcast System. Now online for all of Southern California with Newsbytes, Computer Entertainer Newsletter, list of music and software hits, weekly columns by Dan Gutman, electronic mail. Video take-out mail order with online ordering of software. Plus many exciting new features. Sysop: Jon Badeaux.

Flipside BBS. (213) 693-6971. 300/1200 baud. Midnight-Noon. Flipside's (L.A.'s oldest punk rock fanzine) electronic counterpart. Sysops: Al and Hud.

Carrier-Point Information. (213) 423-4999. 300/1200/2400 baud. 300 baud callers call (213) 423-8023 or 423-8641 after 9:00 pm until 10 am. 10 lines, 9 in rotary. Open 24 hours except from 2:00 am to 4:00 am. Accessible using GTE's PC pursuit.

Best and Worst Number 1. (213) 864-2105. 1200 baud, 8-N-1, 24 hours. Commodore punter file transer. Sysop: Dan Klaffke.

Far Side. (213) 540-6853. 2400 baud, N-8-1, 24 hours. Running from Wochange software. Sysop: Rick Parker.

PPC Personal Programming Center. (213) 978-0024. 1200/2400, 8-N-1, 24 hours, HP handheld programmable support, HP41c, HP-71b and HP-28c. Sysop: Richard Schwartz.

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Ramona BBS. (619) 789-6235. 24 hours, 300/1200 baud, C128, C64, Amiga, Atari, IBM, CP/M. P.O. Box 373, Ramona, CA 92065. Sysop: Digiteer.

Sysware BBS. 24 hours, 300/1200 baud, (619) 278-8661. Commodore machines only. Sysop: Don Malette.

The Nassau XPress. (619) 433-XPRS. 8-N-1, 300 baud, 24 hours. An information and entertainment BBS with 11 message bases including electronics, amateur radio, computer news, music, adventure games, BBS review. Full access is granted to long distance callers with same day validation for new users. UL/DL available using XModem or Punter. Private e-mail, text files, online games and utilities. Sysop: Dan Wright.

Willy-Net. (619) 535-0816. 300/1200, 8/N/1, Large download and message area. IBM. Sysop: Willy Bergner.

ERA Red Walsh BBS. (619) 455-8239. 300/1200 baud, 7-E-1, 5:00 pm to 10:00 am. BBS is for the dispersal of information about real estate, San Diego listings, and ERA Walsh & Assoc., Realty. Downloads/Uploads, Doors (coming soon) and fun! Operated on RBBS-PC for IBM PCs. Sysop: Mark East IV (Osiris).

Culture Schock BBS. (619) 438-2962. 300/1200/2400 baud, 24 hours. All computer types welcome. "Most popular BBS in the area." Sysop: James Rexes

714

The Consultant's Exchange BBS Serving professional computer consultants and students since 1983 with the finest public domain software for the IBM-PC. Featuring consultants list and job list. (714) 842-6348 24 hours.

Computer Consultant's Network problems, solutions for business,legal and engineering problems. Referral service. (714) 982-5994 intro file.

El Toro RBBS/RCPM. (714) 855-0672. 24 hrs. 7 days/week. 300 / 1200 / 2400 baud. No charge, open access, no registration. Specialize in ZCPR3 and CP/M PD utilities. Sections for AMPRO, SB180, dBase II, TPascal, Modula-2, Wordstar, ZCPR3, modems, SIGM and utilities. Over 3000 programs in 88 megabytes online. Public E-mail system. Easy to use ROS system. The collection point for Modula-2 in So. Calif.

K-WEST. (714) 646-3060. 8-N-1, CP/M and DOS. 24 hours, 300/1200/2400. Sysop: Peggy Lloyd.

The Byte Zone BBS. 7 days, 24 hours, 300/1200 baud. Serves all Tandy computers and many others, including MS-DOS. Features adventure help files, electronic mail, message bases and download menu. Sysop: Franco Collino. (714) 639-3566.

CMC Computer Systems. (714) 835-0910. Information boards: Apple II, Apple III, Laser 128, IBM, Buy/Sell, hard disks. 300/1200 baud, 24 hours. Sysop: Charles F. McConathy.

Amiga-Line. (714) 772-4097. 24 hours, 300/1200 baud. 100% Amiga for Orange County. Sections for graphics, sound, BASIC, ROM kernel, C, Hardware and Games. Sysop: Tom Jacobsen.

Diamond Bar BBS. (714) 923-1031.300/1200/2400 baud, 8-N-1, 24 hours, 365 days. Ten meg online. Affiliated with the Diamond Bar User's Group. Sysop: Jonathan Hart.

The WOCCUG Board. Operated by West Orange County Commodore User Group. EBBS, 8-N-1, 24 hrs, 300/1200. (714) 772-4182. Sysop: Mark Stanford.

The Buckeye BBS. (714) 821-0589. C64, Punter, Xmodem, 300/1200 baud, 24 hours. Sysop: Art Collins.

FBBS. (714) 823-3673. 24 hrs., 300/1200 baud, full duplex. 50 megabyte system based in Fontana. Downloads for Commodore, Amiga, IBM, Atari, Apple, CP/M. 17 active message bases, weekly online magazine. Sysop: Larry Krzewinski.

GameNet. (714) 520-4263, 24 hours, 300 baud, multiuser board. This Orange County based system features interactive games, a chat area, and an online mail section. Sysop: Merlin or Patches.

Bits and Pieces Times BPT-MAIN. (714) 630-5619. 300/1200/2400, No parity, full duplex. BBS determines results by return key. You must press return key to get on. Guardian-Fidonet/125. Large C64, 128, Amiga and IBM library. Sub board 4: Commodore Club. Sub board 5: IBM. 8:00 pm-9:00am, M-F. BBS runs continuously from 8:00 pm Friday to 9:00 am Monday. Sysop: Mike Dalton; Sub: John Callaci.

Software Exchange. (714) 552-3515. 300/1200/2400, 24 hours, 7 days, 8-N-1. Specializing in public domain and shareware for IBM and compatibles. Over 2000 programs in 122 megabytes on line. Features include private and public message bases, conferences and online help and menu screens. Beta Tester for "Wildcat," the next generation of BBS software. Sysop: John Coon.

C-TUG BBS. (714) 458-1288. Punter protocol, 24 hours, 300/1200 baud. Sysop: Les Gertz.

77-Amiga. (714) 77-AMIGA. 300/1200 baud, 24 hours, 40 meg. drive. Sysop: Al Cheser.

French Connection. (714) 858-8111. 300/1200/2400/9600 baud. Ten multi-line BBS in Orange County. Dating service, 500 megs of software for users. Sysop: Stephan M. Cohen.

The Pleasure Connection. (714) 773-5326. DYM 502 Buena Park CA. 300/1200 Baud, 24 hours. Computer dating, open forums, adult boards, etc. Sysop: Russ.

Tripwire Wildcat. (714) 964-1146. 8-N-1, 300/1200/2400 baud, 24 hours. New BBS. Tripwire BBS is providing both public and private telecommunications to users on a WILDCAT BBS system. The latest in PD software is provided in nineteen different file sections. After 75 days of operations the board is providing over 750 files to users and continues to grow daily through active support. Sysop: William Kidd.

Nebula 6 BBS. (714) 595-4020. 300/1200 baud, 20 megs. Online full of download material for Apple, IBM, Atari, Tandy and Amiga. There is a vast amount of space for Commodore files. The bessage bases, text files and online games are extremely popular. Monthly giveaways take place dealing with game winners of trivia, etc. If you would like info on the system write to: Nebula 6 BBS, P.O. Box 1071, Walnut Creek, CA 91788. Call now and join the fun. Commodore based. Sysops: Ultimacy & Dr. Foxe.

F&W Guns. (714) 653-0494. 300/1200. 8-N-1. Sysop: Louis Ringe.

The Circuit Board. (714) 778-0948. 300/1200/2400, 8-N-1, 24 hours. IBM-PC software. 106 MB disk space. Sysop: Dave Kleinschmidt.

The Amiga Inn. (714) 283-3202. 1200 baud, 8-N-1, 24 hours, 7 days. The Amiga Inn is dedicated to the full line of Amigas: 500s, 1000s and 2000s. Reviews, games, help, etc. All use is free. Please visit the Inn. Innkeeper: Steve Snyder.

1139/South. (714) 545-1706. 300/1200/2400 baud, 8-N-1, 24 hours. Located in Costa Mesa. Sports conferences and file area. Five doors. Sysop: KC.

Color Galaxy BBS: (714) 839-5830. 300/1200 baud. 7-ODD-1. 24 hours. Color Galaxy BBS for the Color Computer! Free access. Supports X-Modem, uploads, downloads, games, adventures, utilities, graphics and more! Ten message bases and private mail, including private uploads to other users. Sysops: Dave Cragun and Tom Guzman.

Bridgecard BBS. (714) 761-0340. 300/1200 baud, 24 hours. Supports IBM, Amiga, C64 and Apple. Located in Anaheim, CA. Sysop: Arthur Collins.

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Thousand Oaks Technical (805) 493-1495. This massive 64 megabyte board has a mind-boggling number of downloadable programs. The board has no bulletin board feature and allows unlimited upload time. Download time is limited depending on upload exchange.

KERNCOM. (805) 322-8800. 300/1200/2400 baud, 24 hours, 7 days. KERNCOM has operated continuously since March 1982 for the IBM community. KERNCOM is owned by the Kern Independent PC Users Group and is never off line except for routine maintenance. Sysops: Rick Heming and Jim Harrer.

CCCUG BBS. Central Coast Commodore Users Group. (805) 934-2216. 24 hrs/7 days, 300 baud, Punter BBS protocol for downloads. Sysop: Greg Johnson.

PC Vision. (805) 487-3149. 300/1200, 8-N-1, 40 megs. PC-, MS-DOS programs. Sysop: Frank Driscoll.

Tech-Talk. (805) 922-5488. 300/2400 baud, 24 hrs. 21 meg pd software on a 63 meg system. Online registration, instant access to all files, MS/PC-DOS, CP/M. Sysop: Jerry D. Russell. Public access "Collie ver. 1.2."

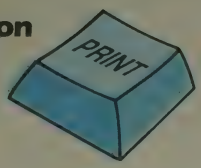
CompuLink Fido. (805) 494-3350, 300/1200/2400 baud, 24 ours except during netmail. Huge selection of ham radio files; other features include echomail, Outside, and role-playing games (StarTrek, Gamma World, Champions, AD&D, more!!). 20 megs—call today! Sysop: Eric Daymo.

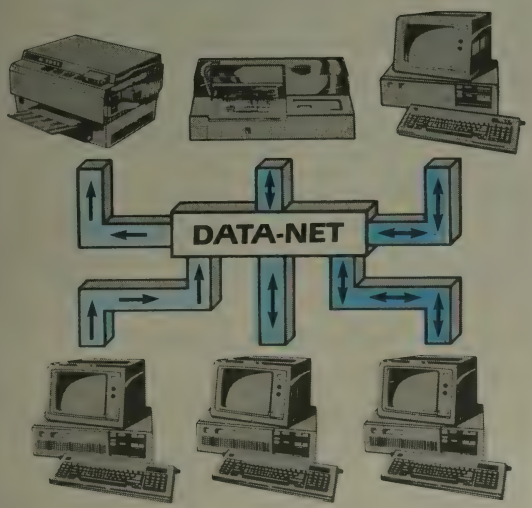
Mustang WILDCAT! BBS. (805) 395-0650. Bakersfield, CA 300/1200/2400/9600 baud. 24 hours, 7 days. This board serves as the development home for the WILDCAT! Bulletin Board System written for the IBM PC. Free access to over 40 megs of download files on your first call! The message section supports conferences in Turbo Pascal, PC Utilities, WILDCAT! updates, electronic stock reports, and many others. Sysops: Jim Harrer and Rick Heming.

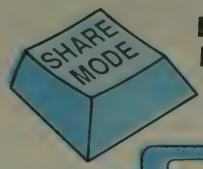
Affection Connection. (805) 527-7464 (Simi Valley), (805) 529-7311 (Moorpark), (805) 496-3657 (Thousand Oaks), (818) 704-8588 (Canoga Park), (818) 367-0248 (Sylmar). 300/1200 baud, 8-N-1, 24 hours. Multi-line/multi-user BBS with on-line chatting. We're a local call to

Make a few key moves into networking

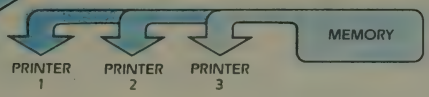
Simultaneous Operation



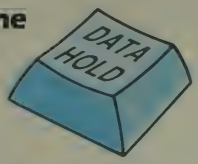


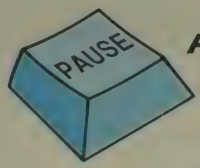


DATA-NET Routes Print Data to the Directed or Next Available Printer



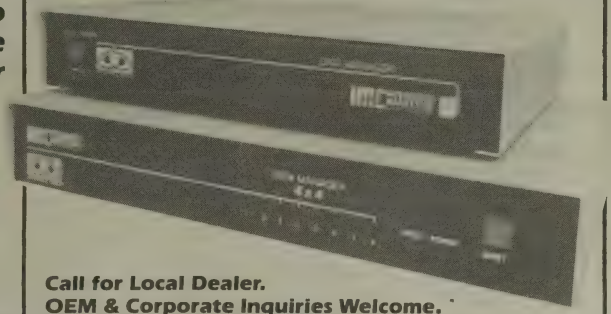
DATA-NET Will Hold the Data You Send to Memory Until You're Ready to Print





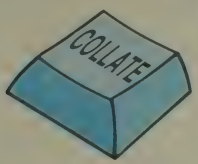
Automatic or Manually Controlled Pause Command

DATA-NET gives you all the right connections for PERIPHERAL SHARING



Connect Computer to Computer or Multiple Computers to a Printer

Copy or Collate



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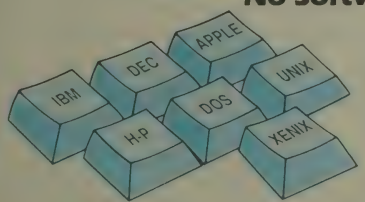

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Success BBS. (805) 238-7359. 300 baud, 24 hours. Commodore user group. Sysop: Larry Sarver.

Appleholics Anonymous. (805) 659-0781. 300/1200 baud. Sysop: Jorgé De La O.

818

Granada Engineering Group RCP/M (818) 360-5053. Technical information, BBS lists, and help on CP/M assembly language program writing.

Oracle BBS (818) 980-6743, system password MICROTIMES, is a multi-interest, multi-user BBS running 6 phone lines on a CompuPro. Features include 8K messages, comments on messages, match-maker, adult material section, online CHAT between users and much more. 24 hr., 300/1200 baud.

The Audiophile Network. A databoard system for the music lover and audiophile. Information, specifications, prices and the latest news about hi-end stereo components. 24 hours, 7 days, unless down for repair. (818) 988-0452. (818) 782-1676 (voice) for info.

Speak Easy BBS. 300/1200 baud, runs on an IBM-AT with 26 megabytes. UL/DL with Xmodem, games, 20 message bases, dating service (questionnaire), voting booth. All computers invited! (818) 905-6262.

Ski Center West. 300 baud, full duplex. 50 ski resorts in western states. Bulletin board, E-mail, buy & sell equipment, merchant section, more. (818) 982-2530. Information (voice) (818) 982-3571.

Warren Communications Network. TI BBS, 24 hours, 300/1200 baud, graphics, speech, downloads. Sysop Douglas Davis. (818) 361-9294.

The Hotline. (818) 766-6442 and (818) 762-6161. 300/1200/2400 baud. 24 hours. Multi user. Affiliated with the National Data Broadcast System. Now online for all of Southern California with Newsbytes, Computer Entertainer Newsletter, list of music and software hits, weekly columns by Dan Gutman, electronic mail. Video take-out mail order with online ordering of software. Plus many exciting new features. Sysop: Jon Badeaux.

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Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include emkployment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

Light Artists, LTD. (818) 985-0541. 24 hrs, 300/1200/2400 baud. Sysops: Marty and Gerald Lehtola.

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The Talk Channel. (818) 506-0620 (Hollywood). (818) 507-1365 (Glendale). Both systems are 300/1200/2400 baud, 8/N/1, 24 hours, 10 lines, multi-user with private & group chat. Large UL/DL library, Data Base, 26 Public boards. California's largest BBS system. Sysop: Gary Clarkson.

LAACE (Los Angeles Atari Computer Enthusiasts). (818) 700-1652. 300/1200 baud, 24 hours, 7 days. Atari 8-bit and ST support. 10 meg online. Sysop: Rich.

The Californian. (818) 368-7497. 300 baud, 24 hours. Color Bulletin Board System runs 24 hours a day, 7 days a week. Dedicated to the TRS-80 Color Computer, but other computers welcome. 9 sub-boards, more soon. No fees; only rule—no attempts to crash the system. Sysop: Jay B. Sanders.

Wizard of Osz RBBS. (818) 709-6978. 300/1200/2400, 24 hrs., CP/M or MS-DOS. Sysop: Mat Satuloff.

RBBS (Bondwell SIG). (818) 787-0156. 300/1200 baud, CP/M and MS-DOS, 24 hours, 7 days. Everyone welcome. No time limit. Instant access to downloads. Files available for PC compatibles, Bondwell models 2 through 36. Hardware notes and tips. New product discussions. Sysop: Jon L. Bek.

Dodge City. (818) 241-4401. 24 hours, 300 baud, soon 1200. Great downloads that change every day. Sysop: The Sheriff.

The MacLodge BBS. (818) 444-9850. 8-N-1, 40 megs, 300/1200/2400. Hours M-F 3:30 pm-7 am; 24 hours on weekends and holidays. Macintosh up/downloads, plus Mac info. Mac users only please. Sysop: Dennis Cosio.

Greycastle BBS. (818) 355-7872. 300/1200 baud, 24 hours, 7 days. Apple Macintosh discussions and news, plus employment opportunities at Pasadena City College. User's Guide available. Sysop: Stan Coutant.

The Outpost RCP/M. (818) 353-8891, 300/1200 baud, 24 hours. Online games, occult and general text files, CP/M, Turbo Pascal. Sysop: Phil Hansford.

AT&T PC6300 Users' Group BBS. (818) 954-0530. 300/1200 baud, 8-N-1, 24 hours. Only So-Cal BBS "officially supported" by AT&T. Sysop: Eric L. Levinson.

AMP PC-RBBS. (818) 570-4406. 300/1200, 8-N-1, 24 hours. For IBM, program downloads and uploads, personal mail, public message system, 40 megs, no fee. New open sale conference for free for sale or wanted ads. Computer products offered at low price. Sysop: Edward Lee.

Affection Connection. (805) 527-7464, (818) 704-8588. 24 hrs., 7 days, 300/1200 baud. Multi-user BBS offering live on-line chatting, matchmaking. Sysop: Devin Woods.

Excalibur BBS. (818) 355-6969. Atari and other computers. 24 hours, 7 days, 300/1200/2400 baud. Sysop: White Knight.

The Computer Tele-Comm System. (818) 362-0995. 24 hours, 300/1200 baud, 8-N-1. We have meeting places, computer supplies. You can apply for credit cards. Enter our contest to win a 20 meg HardCard, 100 diskettes, $50 solid gold piece and more. We are the first BBS to offer an 800 toll free number. Call us direct the first time, after that call us free. Sysop: Dr. Jeffrey A. Keese.

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PC Users Group and BBS For Desktop Publishing. (818) 445-8072. 24 hours, 300/1200/2400 baud. Sysop: Mel Minami.

Fantasy Plaza BBS. (818) 840-8066, 300 baud, 24 hours, 7 days. Fantasy Plaza departs from reality with the most unique and entertaining system you've ever seen! You will be impressed! Sysop: Gregg Collins.

Dial-Your-Match#1. (818) 842-6900. 24 hours, 7 days, 300/1200 baud. Meet new friends! The original and most unique friendship BBS. Online since October 1981. DYM network allows you to send messages across the USA.

Machiavelli Interface. (818) 659-1168. 8-N-1, 24 hours, 7 days, 300/1200. IBM and compatible PC board with Net-Mail feature. 30+ megs of downloads, conferences. Sysop: Dewayne Mikkelson.

Luv-A-Hug Moonbeams B.B.S. (818) 772-0384. 300/1200 baud, 8 data bits, 1 stop bit, no parity. Full access restricted to members of Luv-A-Hug only. 25 Megabytes online. IBM compatible, Z-100, and CP/M public domain software. Sysop: Greg Cook.

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Inner Realm. (818) 352-7102. 300/1200 baud, 24 hours. Atari Forum ST. Chess Club. Sysop: IR ROM.

The Space Station-Shopper/BBS. (818) 286-8539. 300 baud, 8-N-1, 24 hours. Brand new, check us out. Sysop: Hugo.

Affection Connection. (805) 527-7464 (Simi Valley), (805) 529-7311 (Moorpark), (805) 496-3657 (Thousand Oaks), (818) 704-8588 (Canoga Park), (818) 367-0248 (Sylmar). 300/1200 baud, 8-N-1, 24 hours. Multi-line/multi-user BBS with on-line chatting. We're a local call to more users than any other BBS in southern California. Member of the Southern California Sysops Association. Running on an IBM clone, we welcome users of all systems. We have users under 15 and over 50, so if you can't find someone interesting you must be dead from the neck up! Upload/download areas for IBM, Apple, C64. UL/DL includes text, games, utilities and more. Public message areas for anonymous advice, bad jokes, general interest, music, movies, buy, sell trade. Always adding new features. "Matchmaking" to help find that special person, and private e-mail for whispering your sweet nothings. Whatever your interests you'll be glad you called. Come visit our comfortable old manor house and make it your "home away from home." Sysop: Devin Z. Woods.

The Adobe BBS. (818) 401-9611. 300/1200/2400 baud. 24 hours, 7 days. Message bases, Atari P/D Files.

Makom Ohr Shalom. (818) 609-1808. 300/1200 baud, 8-N-1, 24 hours. A Jewish BBS with chat mode, downloads, public boards. Religious, secular & humorous themes. Sysop: Don Goldberg (Don 1).

Cryonics And Immortality BBS. (714) 734-0139. 1200 baud, 8-N-1, 3:00 pm to 6:00 am PST. No fee except phone company charges. An information exchange for immortalists and cryonicists. Sysop: Hugh Nixon.

The Scream BBS. (818) 287-4570. 1200/2400 baud. 8-N-1. 24 hours, 7 days. 200 MBs! Full color, online games. Files are for IBM and compatibles only, but all systems are welcome to use MESSAGE base and DATABASE. Merchant sub-board, computer shopping list, great conversation. UL/DL section and much more! This BBS could have the fastest response time around, so you don't have to wait for anything! Free to the public. Online registration is required before full access is given. So when you're ready for a change, Do something different, call Scream BBS. Sysop: ECIII.

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ASSOCIATIONS

Computer Professionals for Social Responsibility. The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics. They meet most third Wednesdays at 7:30 pm at varying locations. Contact Rodney Hoffman, P.O. Box 66038, Los Angeles, CA 90066, (213) 932-1913 for more information.

Organization of Professionals, Educators, and Novices (OPEN). Tutorials, random access period, feature presentation, public domain library, and CP/M literature are all part of the monthly meetings of Osborne owners/users and MS-DOS transportables. Club BBS and newsletter. Call Frank L. Christ at (213) 498-4186 for more information. Meetings at Learning Assistance Center, CSU Long Beach, 3rd Wednesdays, 7 pm.

The North Orange County Computer Club. This group is the largest and perhaps the oldest in the county. It is affiliated with a large number of special interest groups and offers something for just about every user. General meetings are usually the first Sunday of every month in the Hashinger Auditorium, Chapman College, Orange. For info, call (714) 998-8080.

The South Orange County Computer Club. A general computer club that meets the first Tuesday of every month at 3545 Harbor Blvd., Costa Mesa. Meetings begin at 7:00 P.M.

Valley Computer Club. Monthly meeting at 7 pm, first Wednesday of month in Burbank Board of Realtors Bldg., 2006 W. Magnolia Blvd., Burbank. All types of micros represented.

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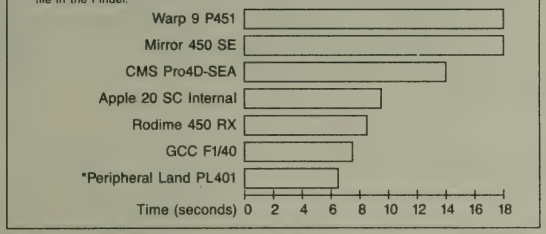
HARD DISK PERFORMANCE

This graph charts read/write performance for different disks used with a Macintosh SE (1 Mbyte of RAM, cache turned off). Figures shown are times to duplicate a 766-Kbyte file in the Finder.


Warp 9 P451
Mirror 450 SE
CMS Pro4D-SEA
Apple 20 SC Internal
Rodime 450 RX
GCC F1/40
*Peripheral Land PL401
Time (seconds) 0 2 4 6 8 10 12 14 16 18

*The PL40i has been replaced by the PL50i since publication. The new drive is even faster!

PLI'S EXTERNAL HARD DISKS — our PL 30, 50, 100, 172 and 230 Turbo Drive Systems — provide a combination of speed, reliability, software and value that has earned them the top spot among SCSI hard drives.

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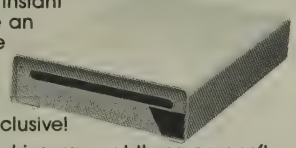

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And the reliability of the units is also unbeatable: Every one of PLI's hard drives is completely tested and burned-in before shipping and carries a full one-year warranty.

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San Diego Computer Society. Umbrella organization for over 40 Special Interest Groups (SIGs). Sponsors meetings, newsletters and annual computer fair. Meetings at Mesa College, 7250 Mesa College Drive, San Diego, 11:30-4, third Saturday each month. Contact Membership Chairman, P.O. Box 81444, San Diego 92138, (619) 549-3783. BBS (619) 549-3788.

Consolidated Computer Club. Dues $25 yr. For meeting place and time send SASE to David Nussbaum, 14200 Polk Street, #53, Sylmar, CA 91342-2966, or call (818) 362-9718.

Hughes Aircraft Computer Clubs. This club is for Hughes Aircraft employees only, but the BBS is open to everyone. Upload and download boards for Macintosh, IBM, Atari, Commodore, etc. Each board has its own public message service plus general message board. Contact Bud Grove, 21111 Dolores #146, Carson, CA 90745. BBS (213) 549-9640, 300/1200 baud, 24 hrs., 7 days.

Ventura Personal Computer User's Group. All MS-DOS and PC-DOS machines. Meetings 3rd Saturday 9 am-12 noon, Foster Library, 651 E. Main, Ventura. Contact Mike Regan, President, 301 Dana Point, Ventura, CA 93004, (805) 647-8273.

Micro User's Group — SFV Board of Realtors. Meetings 7233 Balboa Blvd., Van Nuys, 7 pm. third Thursday. Contact Mary Lou Williams, (818) 786-2110 for more information.

South Bay Computer Education Group. Supporting Apple, Atari, Commodore, IBM and compatibles, and TI99/4A. Meeting 2nd Wednesday of each month. Time 7 pm at 3675 Torrance Blvd., Suite 202, Torrance, CA 90503. Contact Jack Ward (213) 530-4879 or Judy Adams (213) 540-5010.

UCLA PC Users Group. IBM PC or compatibles owners welcome to join us on the 2nd Tuesday of the month, 7 pm. Public domain library , SIGs, BBS, seminars and newsletters. NPI Auditorium, UCLA, Westwood Plaza, Level C. For more information call (213) 473-6668.

Citizens Veto. For users with an interest in socio-economic issues who might want to try their equipment in working a model of a new approach. Primarily graphics and numbers, minimal text. Ewald O. Schlachter, (415) 452-0151.

ICCA (Independent Computer Consultants of America. A nonprofit national association dedicated to the independent computer consultant. Its goals are to promote professionalism within the industry, increase awareness of ICCA to clients, and provide group benefits to members. Meets at Revere House, Tustin, 2nd Thursday, 6 pm. Contact Bill Creel, membership chairman, ICCA-OC, P.O. Box 3067, Santa Ana 92703, (714) 666-1981.

LAC-BUG (Learn About Computers — Beginner's Users Group. All computer owners and prospective owners eligible, ages 3 to adult. Educational materials and hands-on training included with membership. 24 hour telephone: (213) 372-8909. Mailing address: 6506 Arizona Avenue, Suite 127, Los Angeles, CA 90045.

Association For Women In Computing. L.A. Chapter meets on the second Wednesday of the month, 6:00 pm, at the Proud Bird Restaurant, (near LAX). Contact the Program Chair at P.O. Box 3966, Torrance, CA 90510. (213) 657-0327.

Southern California Geneological Society Workshop. Meets the fourth Saturday of the month, 4:00-6:00 pm, at the SCGS Library, 122 S. Golden Mall (rear), Burbank, CA 91502. A self-help group to provide a forum for information and experience exchanges on the use of computers in geneology. Contact W.R. Robinson, SCGS, P.O. Box 4377, Burbank, CA 91503. (818) 368-1383 or (818) 843-7247.

NATIONAL/ INTERNATIONAL

Network Users Association. 2111 Eisenhower Ave., Suite 400, Alexandria, VA 22314. (800) 638-8510 or (703) 683-8500.

TPUG World's largest Commodore Users Group. $25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 5300 Young St., Willowdale, Ontario, Canada M2N5R2, (416) 733-2933.

Apple Co-op. 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.

MicroPro Users Group of America. National group with over 200 members worldwide. Dedicated to supporting MicroPro products, especially WordStar and InfoStar, for any hardware. c/o Procyon Associates, 140 Riverside Drive, New York, NY 10024. (212) 595-4811.

Golden Apple Club, Apple II and Macintosh. Contact Stefano Minotto, Golden Apple Club, Riviera Tiso da Camposanpiero, 26, 35100 Padua, Italy.

F.O.G. 15,000 member group supporting all CP/M users. Dues of $24.00/yr. include 60-80 pg. FOGHORN monthly's access to 270+ disk library, 40+ RCP/M systems, and back issues; and a technical support hotline. All meetings conducted by 140+ local groups. Gale P. Rhoades, P.O. Box 3474, Daly City, CA 94015, (415) 755-2000.

Getec s.r.l. Contact Silvio Esengrini, Via dei Guarneri Nr. 24-20141 Milan, Italy. Phone: 39/2/5696502, 39/21 5694185.

Italtel S.p.a. Contact Michelangello Sala, C.Na, Castelletto, 20090 Settimo Milanese, Milan, Italy. Phone 39-2-4388-4288.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

KAPPA (Memphis Keypro Users Group). Meetings at 2 pm, 1st Saturday of the month, Room 2, Jennings Hall. Contact Hugh Lamar, 5983 Macon Cove, Memphis, TN. (901) 377-4140.

The AppleWorks Users Group (TAWUG). c/o Regional Rep, 27421 Berenda Way, Hayward, CA 94544, (415) 887-7499.

FORTH Interest Group, International Office. P.O. Box 8231, San Jose, CA 95155. For further information call (408) 277-0668.

Apricot User Group (APRICUG). Box 98, Malverne, NY 11565.

Spellbinder Users' Group has an international newsletter with useful macros written by members, advice on new applications, news, and word-processing problem solving. All experience levels. California members welcome. Write P.O. Box 14, Newark, Notts, England NG24 4TP; telephone (0636) 77313; telecom Gold/Dialcom Mailbox 72: MAG95610.

National TeleVideo Users Group. Meets 7:30 pm, 3rd Thursday, 1170 Morse Ave., Sunnyvale. P.O. Box 22007, San Francisco, CA 94122. Call for info—David, (415) 753-1552.

Apple Fontrix Club. Monthly newsletter. P.O. Box 29857, Thornton, CO 80229-0857.

N.A.B.V.I.C.U. - The National Association of Blind and Visually Impaired Computer Users. The purpose of this group is to gather information that will assist the blind or visually impaired person in utilizing the enormous potential of computers. It supports **CompuHelp,** a menu driven database-bulletin board programmed for use by the blind and visually impaired. It is available 24 hours a day, 7-days a week, 300/1200 baud, 8 or 7 bits, even or no parity, 1 stop bit. (916) 786-3923. Compuhelp is also available on disks. For more info, contact Otto C. Haiungs, Chief Executive Officer, Sysop, at P.O. Box 1352, Roseville, CA 95661-1352. (916) 783-0364.

28 Barbary Lane. Meets at 121 13th Ave. East, Seattle, WA, Fridays 8:00 pm. Contact A. Madrigal, (206) 323-2828. BBS: (206) 323-2828.

MICROenvironment: Microenvironmental Information Consortium For Researchers Overseas. (800) 323-7611. World Headquarters, 712 Avery Rd. W. Winlock, Washington 98596, USA. Micro on MCI mail, ECONET & WELL. TELEX number 6502928733 via WUI.

American Computer Users Temporarily In Europe (A.C.U.T.E). Going overseas or already there? We are a users group dedicated to helping you better adjust and understand how to survive in the overseas environment with your computer system. We show you how to find things you will need at reduced member prices. We also consult firms and developers on how to make software more acceptable to the international market. We do foreign language translation of computer software and provide referral services. Further information available by mail: A.C.U.T.E., Postfach 4, D-8818 Lehrberg, West Germany.

Folklife Terminal Club. Almost Free Software. An international Commodore computer users group, with members in more than twelve countries, has made its software library available to other user groups and individuals. The club has issued new catalogs of software from its archives which contain more than 6,000 public domain programs. The programs are stored on diskettes and are usable in various configurations of PET, CBM, VIC, C-64, PLUS 4 and C-128 computers. The software itself is free. The first diskette that should be ordered is the new "CATALOG DISK" which contains an automatic disk cataloging program, a listing of all the available programs, complete instructions and Associate Membership in the club. There is a copying and mailing fee of $15 per diskette. Please specify which computer and disk drive you have. Contact Folklife Terminal Club, Box 555-DN, Co-op City Station, Bronx, NY 10475.

Miami PC User Group. Meets at 16400 N.W. 32nd Ave, Miami, FL. Second and fourth Wednesdays at 8:00 pm. Contact Jeffrey Feinberg, 2500 E. Hollandale Beach Blvd., Hollandale, FL 33009. (305) 457-7744.

USER GROUPS

AT&T

AT&T PC6300 Users' Group. Meetings at various locations—contact BBS for latest information. Or write Eric Levinson, P.O. Box 7364, Burbank, CA 91510. BBS (818) 954-0530, 300/1200, 8-N-1, 24 hours.

ORCA - Orange Riverside Counties AT&T 6300 UG. Meetings bimonthly, second Saturdays, 11:30 am, at 2144 Michelson Drive, Irvine. Contact Chuck Patten, 1220 Page Circle, Corona, CA 91720, (714) 851-0119, ext. 234.

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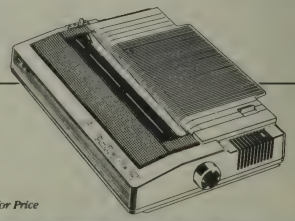

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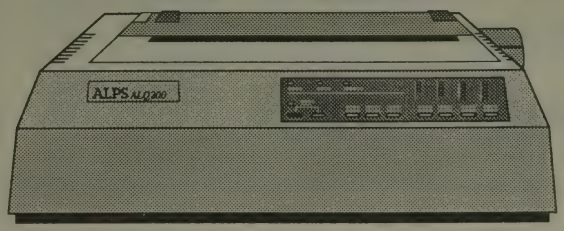

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ALPHAGRAPHICS

Alphagraphics. Contact Stella or Jim Muller, 16425 Bernardo Ctr. Dr., San Diego, Ca. 92128, (619) 451-2250.

AMIGA

Amiga Friends (AF). Contact Russ Kavanagh, (714) 898-2947. Call for more information, we'll see you there!

San Fernando Valley Amiga User Group (SFVAUG). Meets 2nd Thursday of the month, 7-10 pm, at American Legion, 7338 Canby Ave., Reseda. We've got demos, SIGs, newsletter, PD library, disk of the month, ANSWERS. Bring your AMI, we have lots of room now! Contact Randy Likins, (818) 709-0932.

Bits & Pieces Amiga Group of Anaheim. Meets every Tuesday 6:30-10 pm at 1130-A N. Kraemer Blvd., Anaheim, CA 92806. C-64, C-128, Amiga. Public domain software, technical help, guest speakers, much more. Contact John Calliaci or Mike Dalton (714) 630-8644/ 630-8711 for information.

Color America. Amiga SIG meets 1-3 pm on the third Saturday of the month at Rosemead Community Center, 3936 N. Muscatel Ave., Rosemead. For information contact Mark Randall, 2227 Canyon Rd., Arcadia, CA 91006, (818) 355-6111.

Amiga Tech Users Group #1. Meets 4th Tuesdays, 7 pm, University Union, Cal Poly Pomona. Contact Mark Randall, (818) 355-6111. Call for more information, we'll see you there!

Amiga Tech Users Group #2. Meets at Rosemead Community Center, 3936 N. Muscatel Ave., near Valley Blvd., Rosemead, 1 pm, 3rd Saturday of the month. Contact Mark Randall, (818) 355-6111. Call for more information, we'll see you there!

Inland Empire Amiga User Group (IEAUG). Meets 7 pm, 3rd Tuesday of the month, California School for the Deaf, 3044 Horace St., Riverside. Contact Paul Corbet (714) 684-6245. Call for more information, we'll see you there!

LA Amiga Users Group (LAAUG). Meets 3rd Wednesday, 7:30 pm, Veterans Memorial Auditorium, Culver and Overland Blvds., Culver City. Call (213) 387-3698 for more information. We'll see you there! BBS: (213) 559-7367.

West Side Amiga Users Group (WAUG). Meets 2nd Wednesday, 7:30 pm, John Adams Junior High School Cafeteria, 16th and Ocean Park Blvd., Santa Monica. Call (213) 451-0713, during the day, for more information. We'll see you there!

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

Ventura Amiga Users Exchange. (VAUX). Amiga users group for Ventura County. Meetings held on the second Monday of each month, 7:30 pm at the E.P. Foster Library, 651 Main Street, Ventura. Call (805) 646-7121.

AMSTRAD

West LA Amstrad. Meets every fourth Tuesday, 8:00 pm at Venice High School. Call (213) 397-7981 for further information.

APPLE

Original Apple Corps. First Apple group ever. SIGs for AppleWorks, Telecommunications, Educators, Macintosh. Meetings in the Santa Monica Mall, second Sunday of the month, 3rd floor Community room, 12 noon. Contact Rich Rollons (213) 378-0707, or Fred Duffy, (213) 396-5515.

The Orange Apple Computer Club meets 9 am-12 pm the first Saturday of each month in the Science Hall at Orange Coast College, Costa Mesa. We have over 700 members, ranging from beginners to certified Apple developers, and a large Apple II public domain software library. There are several very active special interest groups which include Apple III, educators, Apple II, modem and investors. For further info call (714) 770-1865.

Tri City Apple User's Group (Glendale, Burbank, Pasadena). Speakers, product demos, public domain library and friendly experts ready to answer any Apple II question. Meetings are scheduled the third Thursday of the month at Casa Colina Neurological Learning Center, 50 North Hill St., Pasadena at 7:00 pm. Contact Marie Kaden at (818) 846-6682.

North San Diego Apple Club. Meets 1st Tuesday of each month at Meadowbrook Middle School, Meadowbrook Lane, Poway, 7 pm. Contact Bill Walker (619) 579-9649 or Chuck Newby (619) 566-0387, P.O. Box 75, Poway, CA 92064.

SD Ailiers. Want to start Apple III user group in San Diego area. Contact James Fair, P.O. Box 1592, Lakeside 92040, (619) 561-3270.

Applejacks of the Inland Empire. Primarily for Apple II users. Meets first Wednesday and third Thursday of the month, 7-9 pm, at Norman Feldheym Central Library, 555 W. 6th St., San Bernardino. Contact Scott Zehm at (714)883-2234 for information, or write Applejacks, P.O. Box 23025, San Bernardino, CA 92406.

Appleholics Anonymous of Ventura County. Software library, club BBS, newsletter, hardware and software demos. 150 members. Meetings sometimes vary—call to verify (805) 482-3501, 484-2611, 659-5326, 985-9781. Meetings 3169 Telegraph Road, Ventura, 9:30 am, usually 2nd Saturday.

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

The Driveway Group Ltd. User Group. Meets at the Bellflower Public Library. Time and date varies. We are forming a new club! Deals mainly with special interest programmers and software. We need members! We need to get started! Phone (213) 867-7724 for information.

APRICOT

Apricot Roundtable Group of Hapless Hackers (ARGHH!) An Apricot user's group is forming in east Long Beach, open to any Apricot, Xi, F1, F2, F10 or FP user, or anyone else with MS- or PC-DOS and 3½" disk drives. Phone Jim Bliss at (213) 425-6302. Meetings 7–10 pm, 3rd Wednesdays or at such other time as membership decides. at 7215 Killdee St., Long Beach, CA 90808.

ASHTON-TATE

dBUG-dBASE Users Group. For all levels of dBASE users from beginners to expert. Meets 3rd Monday each month, 7-9 pm, Blue Cross Bldg., 21555 Oxnard, Woodland Hills. For more info contact Bruce Ascough, (818) 789-0723.

dBASE III SIG of UCLA PC Users Group. Meets once per month in Santa Monica—date varies. Contact Tom Rombouts, 1428 N. Curson #6, LA, CA 90046, (213) 874-7471.

dVALLEY dBASE Users Group. Largest and most active dBASE group in So. Calif. Meets 4th Monday of the month in Van Nuys. Large meeting room with plenty of parking. Dedicated to dBASE and its add-ons, all levels. Large cataloged library of programs and routines. Exciting group learning projects, "fix-it-session" at every meeting, plus speakers and demos. For information contact Louie Astorga, President, c/o Real Estate Services, P.O. Box 7140, Canoga Park, CA 91304-7140. (818) 998-3210.

ATARI

Atari Computer Association of Orange County (ACAOC). Join one of the biggest Atari user groups in Southern California. Monthly magazine, large public domain library, and club BBS. Dues $24.00/year, $18.00 for non-attending out-of-town members. Meetings at Golden West College, Room 131, Huntington Beach, 1 pm, fourth Sunday of the month (ST meeting same time and place on second Sunday). P.O. Box 9419, Fountain Valley, CA 92728 or (714) 838-3099 for more information.

West LA Atari Users Group. Come join fellow Atarians! Dues are $25.00/year. Newsletter, P/D library, ATR-Sig, discounts, guest speakers. Please call for directions to meeting room! If you're reading this, you belong with us. Meetings first and third Wednesday of the month, 7:30 pm, Lincoln Park, Santa Monica, Wilshire & Lincoln. Contact Bill Skurski (213) 552-4739.

Los Angeles Atari Computer Enthusiasts (LAACE). Join Los Angeles' largest and oldest Atari Users' Group, now in our 6th year. Enjoy our monthly meetings and newsletter. Participate in our educational SIG (Special Interest Groups) seminars and meetings. Learn how to get the most out of your Atari; access our hundreds of public domain programs; benefit from the help and experience available from our experts. Come as our guest on the 1st Tuesdays of the month (2nd Tues if holiday occurs in 1st week) at 7:00 pm at Granada Hills High School, 10535 Zelzah Ave., Granada Hills, CA. For full benefits, including member access to our 10 meg BBS, dues are $20/yr ($25 for entire family). Write P.O. Box 7752, Van Nuys, CA 91409 (include your phone number) for additional information. BBS: (818) 700-1652.

Santa Clarita Valley Atari Computer Enthusiasts (SCV-ACE) invite you to join us. Meetings are the first Thursday every month from 7 to 9 pm at the Moose Lodge, 18000 W. Sierra Hwy., (1/2 mile north of Soledad Canyon Road), Canyon Country. For info call Bob at (805) 259-6540.

Atari Computer Enthusiasts Network (ACENET). Umbrella group representing many Southern California Atari groups. If you can't locate a user group in your area, contact John Tarpinian at 6055 Cahuenga Blvd., #2, North Hollywood, CA 91606, (818) 760-1831.

Hooked on Atari Computer Keyboard Society (HACKS). Meetings on the first Saturday of the month in the Burbank area. For more information contact John Tarpinian, 6055 Cahuenga Blvd., #2, North Hollywood, CA 91606, (818) 760-1831.

AA-Atari Users Group. Meets at Upland Public Library, 450 N. Euclid Ave. Atari 400, 800, XL/XE group meets second Tuesday, 6-9 pm. Call Juan Valdes, (714) 980-6841 for more info. 520/1040ST group meets fourth Thursday 6-9 pm. Call Jay McCarthy, (714) 829-8722 for more information.

MAST—Mid-Cities Atari ST. Meetings at 9025 E. Artesia Blvd., Bellflower, first Sunday, 7

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pm. Contact Jane Hughes, 9701 E. Artesia Blvd., Bellflower, (213) 867-0626.

South Bay Atari Computer Enthusiasts (S.B.A.C.E.). Meets 2nd Tuesdays, 7:30 pm, VFW Hall, 1865 Lomita Blvd., Lomita. Meetings consist of guest speakers from software and hardware suppliers, demos by members, q & a periods, along with current Atari rumors. Newsletter, published 6 times a year, included with $20/yr membership fee. Write S.B.A.C.E., P.O. Box 83668, Los Angeles, CA 90083, for more information, or call Dick Reaser, (213) 645-7063.

AUTOCAD

AutoCAD Los Angeles Users Group. Meetings fourth Thursday of the month (except November and December—Meetings Nov. 20 and Dec. 18), Church of Religious Science, 260 North Pass Ave, Burbank. Contact Tesfaye Abagaz, (818) 843-5770 (work).

COMMODORE

San Diego Commodore Users Group. Meets third Wednesday, 7 pm, 2557 3rd Ave. (Women's Club), San Diego. For all Commodore machines. Contact Jane Campbell, (619) 584-2872 for more information, or write: P.O. Box 86531, San Diego, CA 92138-6531.

San Fernando Valley Commodore Users Group. Meets 4th Wednesday of the month, 7:00 pm, at Mercury Savings, Sherman Way & Sepulveda.

San Luis Obispo Commodore Computer Club 1766 9th St., Los Osos, CA 93402. (805) 528-7475 BBS.

The Commodore Users Group - San Juan Capistrano. This group of C64 users meets the second Saturday of every month from 9:00 am till 12:00 at Great American Federal Savings and Loan, 32232 Camino Capo, San Juan Capistrano. For info call 496-5745.

Orange County Commodore Technical User's Group C-TUG. Orange County's Commodore user group. Club newsletter, two 300/1200 baud BBSs, door prizes, SIGs in Comal, DOS protection, data bases, wpros, and BASIC. Custom software and ROM chips, and just plain good times. Meetings at Mercury Savings and Loan, 4th and Newport, Tustin, fourth Sunday of the month, 10:30 am. Contact Ellis L. Higham, corresponding secretary, P.O. Box 8342, Orange, CA 92664, (714) 554-9222.

Hollywood User Group (HUG) for Commodore computers. Meets 2nd Saturday of the month at Plummer Park, Conference Room, 7377 Santa Monica Blvd., West LA at 12 noon. Contact HUG BBS (213) 874-8256 (24 hrs) or write HUG, P.O. Box 38313, Hollywood, CA 90038.

Southern California Commodore Users Group. Learn more about your Commodore 64. Extensive public domain disk library. Meet at Mid Cities Bank in Gemco shopping center in Bellflower, on the corner of Artesia and Lakewood Blvds. 7 pm, 3rd Tuesday of every month. Contact Dan Klaffke, 11018 E. Rosecrans Ave., Suite 203, Norwalk, CA 90650. (213) 864-2874.

C-128 West UG. User group for owners of the Commodore C128, from beginner to advanced; PD software available. New group still assessing the needs and interests of members. Intend to network with other user groups on C128 software. Meetings 2nd Tuesday, 7:15 pm, McKinley School in Santa Monica, Santa Monica Blvd. and Chelsea. Contact Don Campbell (213) 828-9308.

Inland Empire IBM/C64 User Group. Major subjects are local area networks, small business software, data communications. Send SASE for free newsletter with dates and software library. Contact Winfried Holacker, P.O. Box 988, Chino Ca 91708-0988.

Commodore Creations Users Group (CCUG). We offer library, newsletter, and other services; upcoming BBS; soon to be member of Commodore World. Meets 2nd or 3rd Sunday of each month 2-4 pm. Membership dues $26 per year. Call or write for info: Brian R. Kiotz, 1135 Coronet Ave., Pasadena, CA 91107 (818) 351-8198.

Back-Country Commodore Club. Meets first Thursday 7 pm, Ramona Lutheran Church on 14th St. Check us out for relaxed, informative group discussions. We're here to help those with problems and to promote better uses of Commodore 64s, 128s, and Amigas. Contact Gerry White at (619) 789-3209, 511 14th St. #D-13/ P.O. Box 373, Ramona, CA 92065. Meetings at 617 16th St., Ramona, CA 92065, 7 pm, 1st Thursday each month.

General Dynamics Commodore Computer Club. Meets third Tuesdays, 4:30 pm, Convair Rec. Assn. room C. Commodore 64 and 128 only. Contact Al Wilson, (619) 429-6790 for information.

C.U.B.E. Commodore Users, Buffs, and Enthusiasts meet first and third Mondays of each month, 7:30 pm, East Side Christian Church, 668 Obispo, Long Beach. Contact Ted Lynch, P.O. Box 20288, Long Beach, CA 90801. (213) 435-4815.

Com-Pacs. Meetings and/or copies of public domain software and discussion of problems. New computer C64/128 technologies. Sales and swaps of equipment. Meetings at 2354 Elmgrove St. Los Angeles, CA, Saturdays, 3 pm. Contact Lon Damiani, (213) 222-2277.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

Pacific Computer Club (Commodore). Meetings 391 S. Madison, Pasadena, 2nd Thursday, 7 pm. Contact Norman Sauppe, (818) 792-9840.

FCUG/SixtyFourum. PD library, newlsetter, meeting 3rd Saturdays, 8:30 am. Contact George Bearden, P.O. Box 16098, Fresno, CA 93755, (209) 291-7053. BBS (209) 431-6288.

Central Coast Commodore Users Group. Meets 3rd Tuesday of each month. Contact Gilbert Vela, 4237 Plumeria Ct., Santa Maria, CA 93455. CCCUG BBS (805) 934-2216, 24 hrs/7 days, 300 baud, Punter BBS protocol for downloads.

Diamond Bar User Group (DBUG). The Diamond Bar User Group is dedicated to the Commodore line of computers, C64, C128, and the Amiga. The club has a large public domain software library base, especially Commodore CP/M. Free raffles, technical discussions, software demonstrations, and the monthly freebie disk can be found at most any meeting. Meetings 2nd and 4th Wednesdays, 7 pm, Diamond Bar Library, 1061 S. Grand Ave., Diamond Bar, CA. Contact David Dietzel, (714) 947-1882 for more information.

South Orange County Commodore Programmers and Users (CPU). Meetings at Great American Savings, 23688 El Toro Road, El Toro, third Saturdays, 9 am. Contact Don Gribble, President, 25401 Champlain Rd., Laguna Hills, CA 92653, (714) 830-2430 or (714) 855-8320.

West Orange County Commodore User Group. Meetings 1st Sundays, 1 pm, Mercury Savings, Buena Park, corner of Valley View and Lincoln. Write for info: P.O. Box 6441, Buena Park, CA 90622; or call Mark Stanford, (714) 772-4182 or Art Collins (714) 821-0195.

Bits & Pieces Amiga Group of Anaheim. Meets every Tuesday 6:30-10 pm at 1130-A N. Kraemer Blvd., Anaheim, CA 92806. C-64, C-128, Amiga. Public domain software, DOS classes, technical help, guest speakers, newsletter and much more. IBM group meets first and third Saturdays of the month at 10:00 am to 2:00 pm. Sponsored by Transnational Electronics. Contact John Callaci or Mike Dalton (714) 630-8644/ 630-8711 for information. BBS: (714) 630-5619.

The Pasadena Commodore Computer Club meets the first and third Wednesday of the month at 7 pm in the Circadian Room of the cafeteria on the campus of Pasadena City College, SE corner of Colorado and Hill. For more information write to PCCC, P.O. Box 1163, Arcadia, CA 91006, or call (818) 447-2212 after 2:30 Pacific time.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG, we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wednesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Commodore Helpers User Group Of Long Beach.(CHUG). Meets second Saturday of each month, 9:00 am to 12:00 noon at Mercury Savings Bank, 4140 Long Beach Blvd. Dues $12.00 a year. Visitors and families welcome to attend. Support the C64, C128 and Amiga. Q-Link, SIG and more. Newsletter distributed at meeting. Demos and more. We welcome people who need help with their Commodores. Free disk for members at each meeting. Soon to come: area BBS for users and professional software demos. If you have any questions call Rodney Hayes, president, at (213) 863-8420, from 6:00 pm to 10:00 pm, M-F.

Success. Commodore group meets at 18th and Oak, Paso Robles, CA on the second Tuesday of the month at 7:00 pm. Contact Wayne Weichel (805) 238-6294 for information.

East County C64 Owners (ECCO). Meets at Coleman college in San Diego at 7:00 pm on the first and third Fridays of the month. Contact Gary Bell at (619) 561-4245.

GEOS Users. Dedicated solely to helping Commodore owners learn more about GEOS for the C64 and C128. All information and disks exchanged by mail. Membership is $20 per year. Our first GEOS applications diskette and monthly newsletter is included with membership. Please specify which computer and disk drive you have. Contact: GEOS Users, 21634-A Belshire Ave., Lakewood, CA 90716.

CORDATA

Cordata Users Group. Meets 2nd Fridays, 7 pm. 20630 Lassen St., Chatsworth. Contact Alicia Fahey, (818) 709-6202 for information.

CP/M

CP/M SIG. Meets first Sunday of the month, 10:30 am, at Chapman College. Contact Barry Cole (213) 390-3851. BBS: (714) 998-8080.

DEC

DECUS Inland Empire PC-LUG Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software /applications assistance available; FIDO bulletin board. Meets Cal Poly-Pomona campus, Library Bldg 15, Room 12, 7:30 pm 3rd Tuesday of each month. Contact Jan Snyder, 380 Verona St., Upland, CA 91786, (714) 620-7511 ext. 4376.

DECUS Southern California PC-LUG. Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software/applications assistance available: FIDO bulletin board. Meets 10:30 am, 1st Saturday of the month, Press Telegram Bldg., 3rd Floor, 604 Pine Ave., Long Beach, CA. Contact Bill Davis, 1457 W. 219th St., Torrance, CA 90501. (213) 827-4600.

DECUS Rainbow Pacific PC-LUG Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software /applications assistance available; FIDO bulletin board. Meetings at Digital Equipment Corporation, 6101 W. Centinela Ave., Culver City, CA 90230, 7 pm, 2nd Wednesday of each month. Contact Don Braums, 3312 Summertime Lane, Culver City, CA 90230, (213) 202-1784.

EASYBUSINESS

Easybusiness Systems Users Group. CPAs, Consultants, and other business people interested in Computer Associates Easybusiness Systems' Accounting Software. For information, contact Gary Robinson (213) 398-6544.

EPSON

Cursor Club Epson 402 W. Arrow Highway, Suite 6, San Dimas, CA 91773. (714) 559-8361, Bulletin Board: (714) 592-6316.

San Fernando Valley Epson User Group. Meetings at Fallbrook Square Community Room "The Meeting Place" off the Food Court in the new Fallbrook Mall, 6633 Fallbrook Ave., Canoga Park, between Victory and Vanowen. Meets 3rd Wednesday of each month at 7 pm. Contact Pat Denslow, (818) 881-4029 for information.

Epson Users Group of Orange County. 6075 Jeffrey Mark St., Cypress, CA 90630, (213) 414-4817.

Epson Users of San Diego. P.O. Box 87448, San Diego, CA 92138, (619) 560-7604.

High Desert Epson Users Group. 933 Cottonwood Drive, Barstow, CA 92311, (619) 256-3541.

PSC/QX. 2934 Wilshire Blvd., Santa Monica, CA 90403, (213) 453-4535, Bulletin Board: (213) 474-4952.

South Bay Epson Users Group. 1115 Cerise Avenue, Torrance, CA 90503, (213) 328-9916, Bulletin Board: (213) 618-1940.

Epson Computer Club of America. Monthly meeting 2nd Saturday of the month at 10 am, Mercury Savings and Loan, Irvine Blvd. one block east of Newport Ave. Messages Epson West Bulletin Board (714) 630-7104 User area B:15. Monthly newsletter "The Help Key." Contact Roy Boorman, 4021 Winterhaven St., Yorba Linda CA 92686, (714) 524-9483.

Epson User's Group of Orange County. Meets on 3rd Saturday of the month from 10 am to 12 noon at 2111 Main Street, Huntington Beach, CA 92648. Contact Richard A. Petersen. 7282 Mast Dr., Huntington Beach, CA 92646. (714) 536-6979.

FORTH

FORTH Interest Group, Los Angeles Chapter. Meets 4th Saturday, 10 am, Hawthorne Public Library, 12700 S. Grevillea, Hawthorne. Contact Phil Wasson (213) 649-1428.

FORTH Interest Group, Orange County Chapter. Meets 1st and 4th Wednesdays, 7 pm. Call Noshir Jesung for info. (714) 842-3032.

FORTH Interest Group, San Diego Chapter. Meets weekly, Thurs., 12 noon, contact Guy Kelly (619) 268-3100 ext. 4784.

HEATH

Los Angeles HUG (Heath Users Group). A support group for users of Heath/Zenith computers. Monthly speakers, software library, information exchange, newsletter. Meetings open to visitors. Meetings at 2309 S. Flower St., LA 90007, first Thursday of each month at 7 pm. Call Tom Davis for information at (213) 462-2642.

LUV-A-HUG Heath /Zenith User's Group. Meets 2nd Thursday of each month, 7pm, at Heath /Zenith Computers and Electronics, 22504 Ventura Blvd.

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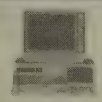

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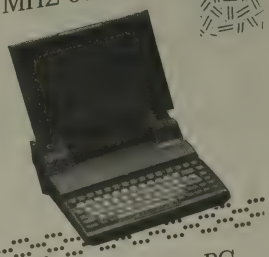

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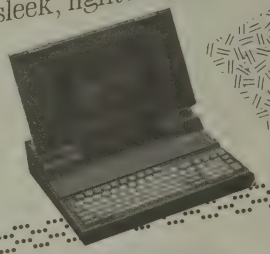

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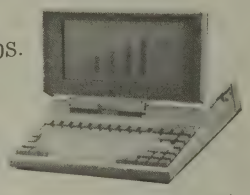

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PRO CARE™

Woodland Hills, CA 91364. A users group dedicated mainly to the Heath/Zenith line of computers, but anyone interested in computing is welcome. Dues are $12/yr, which includes group newsletter and copying of public-domain software from extensive library of PC-, Z-100, and CP/M compatible software. For more info contact John Rotondi, between 10:00 am and 6:00 pm at (213) 874-9344. BBS (818) 772-0384.

HEWLETT-PACKARD

LA-SCRUG. Hewlett - Packard Series 100 business computer user group. Demonstrations and seminars on HP software and equipment. Meetings at 5161 Lankershim Blvd., North Hollywood, 7-9 pm, 2nd or 3rd Thursday of the month. Contact Dave Mark, P.O. Box 60975, Pasadena, CA 91106, (818) 794-4969.

Hands-On Computer User Society (HOCUS). Meets the 1st and 3rd Thursday of the month, 6:30 pm, at 473 E. Colorado Blvd. Pasadena, 91101. Informal, hands-on problem-solving using various HP personal computers. Contact Dale Thorn c/o Logic Tree Computer Center, 463 E. Colorado Blvd., Pasadena 91101. (818) 440-9279.

PPC Personal Programming Center. Current interests include HP-41c, HP-71b and HP 26c. Meeting times and locations vary and are announced on the bulletin board. BBS number (213) 978-0024. For more information contact Emmett Ingram at (213) 498-2472.

IBM

The Greater South Bay IBM PC Users Association. Any L.A. area PC or compatible owners are welcome to attend these meetings at the TRW cafeteria on Compton Blvd. Meeting time is 7:00 pm on the third Thursday of each month. For info call (213) 532-2123.

Technical Users Group (TUG-NET). For CP/M & MS-DOS PC users. Meets on the first Thursday of each month at 7:00 pm. Valley Plaza Park, Community Room, 12240 Archwood St., North Hollywood, CA. Contact Mike Faith - (818) 994-6567. DOS SIG meets 3rd Mondays, 7 pm, Sears S&L, Van Nuys. Call (818) 701-0512 for information. BBS (818) 882-6045.

UCLA PC Users Group. IBM PC or compatibles owners welcome to join us on the 2nd Tuesday of the month, 7 pm. Public domain library , SIGs, BBS, seminars and newsletters. NPI Auditorium, UCLA, Westwood Plaza, Level C. For more information call (213) 473-6668.

Pasadena IBM User's Group. Meets 3rd Wednesday of each month at Cal Tech, Bridge Building, Room 201. For more info send SASE to Steve Bass, 711 E. Walnut Street #306, Pasadena, CA 91101, (818) 795-2300.

Inland Empire IBM/C64 User Group. Major subjects are local area networks, small business software, data communications. Send SASE for free newsletter with dates and software library. Contact Winfried Hofacker, P.O. Box 988, Chino Ca 91708-0988.

The Foothill Computer Club. An IBM-PC users group. CCCUG — Crescenta-Canada-Compatible Users Group. P.O. Box 1265, La Canada, CA 91011, (818) 790-6672. Meetings 1st Wednesday of the month at 6:30 pm at the Glendale Federal Bank, 2350 Honolulu, Montrose, CA. For newsletter send SASE to above address.

NOCCC Lotus & Business SIG. Subgroup of North Orange County Computer Club. Meets first Sundays at Chapman College in Orange, CA, 11:15 am. Lotus 1-2-3 and business application demos, speakers. Call to verify dates, address: Vance Joachim, (714) 998-8080. P.O. Box 3616, Orange, CA 92665.

The Riverside IBM Compute Club. Meetings at Computerland Riverside, Monday 7 pm. We specialize in software demonstrations, sharing of public domain programs, and mutual problem solving activities. Contact Jimmie E. Heidecke, (714) 685-5407 for info.

Orange Coast IBM PC User Group. A not-for-profit organization open to anyone with or considering the purchase of an IBM PC or compatible computer. Monthly meetings, usually on the last Saturday of the month, consist of one or two guest speakers, a short business session and a period for random access. OCIPUG has public domain and user supported software, a monthly newsletter and a bulletin board. Membership is $20 per year. Meetings at Orange Coast College, Science Hall, Costa Mesa, last Saturday of the month, 9 am–12 noon. Contact Tom Sutro, P.O. Box 6100-211, Costa Mesa, CA 92628, (714) 850-0474.

Valley Computer Club. IBM PC Users Group meets first Wednesday each month. The group is part of Southern California's original computer club. Its purpose is to distribute public domain software and exchange info on the PC. Meetings at 2006 W. Magnolia Blvd., Burbank, 7 pm. Contact Aaron Epstein (818) 769-1837.

Kern Independent PC User Group (KIPUG). Meets the 2nd Thursday of each month beginning at 7 pm at the County Superintendent of Schools Boardroom, 5801 Sundale Ave., Bakersfield. Contact Jim Harrer, P.O. Box 2780, Bakersfield, CA 93303, (805) 395-0223.

Bits & Pieces IBM of Orange County. Meets at 1130-A N. Kraemer Blvd., Anaheim, every Saturday at 10 am. Call John, (714) 630-8644 for more information.

Ventura Personal Computer User's Group. All MS-DOS and PC-DOS machines. Meetings 3rd Saturday 9 am–noon, Foster Library, 651 E. Main, Ventura. contact Mike Regan, President, 301 Dana Point, Ventura, CA 93004, (805) 647-8273.

Thousand Oaks Personal Computer Club (TOPCC). Meets fourth Thursday, except November and December (3rd Thursday), at CAL Lutheran Univ., 60 W. Olson Road, Thousand Oaks. 6:30 pm beginners, 7:30 regulars. Group is five years old and has approximately 150 members. Contact Bob Tracy, (805) 482-7092 for more information. BBS: (805) 499-8378.

Southwest PC Users Group. All computer users are welcome. Meetings 3rd Saturday of each month; call for meeting place. Christine Tripp, (213) 935-4105.

Tulare County PC. Meetings at Genesis Computers, 3rd Thursday each month. Call Roger Jenan, (209) 733-8204 for information.

Claremont Computer Club. This club is for any interested IBM PC or compatible users. Meetings start at 7:30 pm on the 3rd Monday of the month. Call (714) 626-2268 for meeting location and information.

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wednesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Pasadena IBM PC Users Group. Meets third Wednesday of each month at Cal Tech Bridge Bldg., Room 201. Contact Steve Bass, 711 E. Walnut Street, Pasadena, CA 91101. (818) 795-2300. Send SASE.

Long Beach IBM Users Group. Meets second and fourth Wednesday of each month at 4601 E. 2nd Street, Belmont Shores. Contact Noel Roberts, president, 153 Argonne Ave., Long Beach, CA 90803. (213) 438-6515.

KAYPRO

Lakewood/Long Beach KUG is a group of Kaypro computer owners dedicated to helping each other solve problems and share information and public domain software. The meeting is open to all. Meetings at Midcities Bank, 9025 Artesia, Bellflower, CA, 2nd Wednesday of each month; 7 p.m. Contact Melvin Pasley, 4566 Shadeway Rd., Lakewood, CA 90713, (213) 421-3094.

Kaypro UG, 3134 N. Palm Shields, Fresno, CA 93704.

K-West, Orange County Kaypro users group. Meetings 2nd Monday of the month, Glendale Federal Savings, 100 Newport Center Drive, Newport Beach.

Club 16. Meets once a month in Costa Mesa at 2790 Harbor Blvd., (CBS Store) to share knowledge of the 16 bit world. It is a small group so that everyone can get to know each other and share. Large public domain library. Contact Peggy Lloyd, (714) 645-9868 for information.

LA Kaypro Users' Group. Primarily CP/M users, all brands welcome. Meets 3rd Tuesday, 6:30-9:30, Beverly Hills High School, 241 Moreno Ave., 3rd floor cafeteria, near Olympic and Spalding. Contact Aliyn Franklin or Barry Cole, (213) 278-3748 or (213) 390-3851 after 11 am please.

Kayos Kaypro Users Group. Kayos Kaypro User Group invites Kaypro and CP/M users to meetings at TRW in Redondo Beach, 6:30 pm, third Monday of the month. (213) 379-8339 for details.

TUG-NET Kaypro and Osborne SIG meets 4th Thursdays, 7 pm, Central Savings, 4464 Van Nuys Blvd., Sherman Oaks. Call (818) 882-1693 for information.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG, we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wednesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Kaypro SIG. Meets on the first Sunday of the month, 1:30 pm, at Chapman College. Contact Tom Gramafa (714) 995-9227. BBS: (714) 998-8080.

LEADING EDGE

OCTIPUG-SIG. Forming Leading Edge user's group. Will organize to teach DOS, Framework, dBASE III, utilities and public domain software. Meeting times and address to be announced. Contact Michael Banyacki, 24992 Spadra Lane, Mission Viejo, CA. (714) 770-3172. Leave name and phone number.

LOTUS

Los Angeles Lotus Users Group. Demonstrations, problem-solving, third-party applications, etc. For Lotus 1-2-3 and Symphony. Informal and fun. 7–9 pm, Burbank church of Religious Science, 3rd Thursday each month. Take 134E to Pass, N. 1 block. Call Don Roark, President, (818) 905-1441 for information.

MACINTOSH

Los Angeles Macintosh Group (LAMG) Be a part of the best Mac group in So. Calif. Many

SIG and local groups to choose from including desktop publishing, OMNI, business, education and more. Monthly main meeting at McKinley Elementary School, Santa Monica Blvd. at Cloverfield, Santa Monica. Membership $25 annually includes 12 issues of MacDigest newsletter, access to public domain library, discounts at local stores. Call Eric Anderson, (213) 278-LAMG for information.

Ventura County Macintosh Club Mac and Lisa users invited. Membership $21/yr.; newsletter, software library, discussions and ideas. P.O. Box 7754, Oxnard, CA 93031, (805) 983-1610, (805) 499-2824.

Mac Valley Users Group. For $20/yr. membership fee you too can enjoy meetings chock full of software/hardware presentations, public domain software library, Mac articles index, software and accessory raffles, and help hotline. Broad range of users, very friendly to novices. Meetings at Burbank High School Cafeteria, Burbank Blvd. at 3rd St., Burbank, CA, third Tuesday of the month, 7:30 p.m. Contact Ruth Stever, P.O. Box 4297, Burbank, Ca 91503, (818) 848-1277.

MAC-HACers. Macintosh computer club for Hughes Aircraft employees only. Meetings 3rd Wed. each month, H.E.S.E.A. Club House, 1216 Imperial, El Segundo, CA 90745, across from LAX, 5 pm. Contact Bud Grove, (213) 606-2212, 5am-3pm, (213) 549-9664.

Orange Apple Macintosh Group. The Macintosh Meeting of the Orange Apple Computer Club meets 1 pm-4 pm the 1st Saturday of each month in the Science Hall at Orange Coast College, Costa Mesa. We have the best of the public domain software for the Mac, and several fun special interest groups which include Fast Start, Mac Modem, and Deciphering Mac Public Domain. For further info, call (714) 770-1865.

Mac Orange. Monthly newsletter, special intrest groups, monthly meetings, $20 annual dues. Meetings 3rd Wednesday of each month, 7:30 pm, Johnson Center, Santa Ana College, Bristol at 17th. Novices SIG meets at 7:00. For info write Box 1830, Santa Ana, CA 92701, or call (714) 542-9753.

MacBuddhist. Learn about computer assisted dharma study and application to daily living. Network of on-line Bodhisattvas sharing material crossing sectarian lines. Monthly meetings, last Saturday of the month. Write: 2605 N. Beachwood Drive, Los Angeles, CA 90060, (213) 464-3599.

Corporate User Groups SIG of Los Angeles Macintosh User Group establishes communication between leaders of Macintosh User Groups of companies in the greater Los Angeles area. The main purpose of the group is to share information on Macintosh use in corporations. It also consults company recreation clubs in starting and supporting company Macintosh groups. Contact Charles Shipp, (213) 970-6300w, (213) 833-9186h, for more information.

San Gabriel Valley Mac Users Group. Meets once a month to disseminate information about the Macintosh. Meetings are held on the first Thursday of every month at the City of Hope in Duarte, 7:30 pm in cafeteria complex Room B. The SGVMUG has special interest groups such as Power Users' SIG and a Novice SIG. Public domain library, monthly newsletter. Membership is $20 per year. Contact Frank Chavez on the 24 hour information line (213) MUG-ICON, or write SGVMUG, P.O. Box 792, Sierra Madre, CA 91024.

Macintosh Computer Society. General meeting on the 1st Thursday of each month at 23 Civic Center Drive, Northwest corner of Santa Ana Blvd. and Rose Street. Meeting time 7:30 pm. Membership $20.00 per year. FREE help / education meetings on the 2nd and 3rd Tuesday of each month at Progressive Savings 19900 Beach Blvd., Huntington Beach, 7:15 pm. Our huge library contains the best of Public Domain software for all the Mac family. For further info, call Robert at (714) 840-1238 or mail to 17661 Falkirk Lane, Huntington Beach, CA 92649.

Rockwell International Macintosh Users' Group (RIMUG). Meets 1st Tuesday of each month 12 noon at 2770 E. Carson St., Lakewood, CA. Al Nercessian, president. 8511 Beverly Pk. Pl., Pico Rivera, CA 90660. (213) 420-4819.

South Bay Apple Mac User Group. Meets last Wednesday of the month, 7:30 pm. Contact Gary Fortune at (213) 316-7738 for information. BBS: 534-4311.

MORROW

West LA Morrow User's Group /The Morrow Minority. 40 dedicated members, with special emphasis in WP; PD library. No dues, but $1 at door to pay for refreshments. Some classes and informal newsletter. If new, call to reserve space: Dr. Bernice Ennis, (213) 276-9096, 1833 Franklin Canyon Dr., Beverly Hills, CA. Meetings 2nd Wednesday of the month.

LA Morrow User Group. Meets 3rd Thursday each month, North Hollywood Recreation Center, 11430 Chandler Blvd., North Hollywood. Contact Jack Byers, (818) 347-7283 for information.

NEC

Orange County NEC Users Group (OCNUG). Dedicated to NEC-APC computers, CP/M-86 & MS-DOS. Always room for any experience level. Meets 3 pm, third Saturday of the month. 6642 Lenore, Garden Grove. CA 92645. Call John Bingel at (714) 897-7656 for more info.

The Los Angeles Area NEC APC Users Group meets on the first Saturday of each month at 3 pm at the I/O Interface Computer Mart, 6241 West 89th St., Los Angeles, CA 90045. Telephone (213) 410-9824. There is no meeting in January, and occasionally a meeting may be cancelled or postponed, so it is best to call before coming.

NETWARE

Orange County Network Users Group (OCNET). All users, consultants and business people interested in learning and sharing information about Netware are invited to join. We're now meeting on the second Monday of each month at First American Title, Santa Ana, CA. For more information call Mark at (714) 955-0616.

OLIVETTI

Olivetti PC User Group forming. Send SASE to Stan Cory, 29500 Heathercliff Rd. #86, Malibu, CA 90265, or call (213) 457-3879.

OMNIS 3

Omnis 3 User Group. Meets every third Wednesday of the month at Grant St. Elementary School in the auditorium. Address is 2368 Pearl St., Santa Monica. Time is 7:30 pm. The use of Omnis3 and Omnis 3+ in data processing information management systems is covered, from setup to advanced features. Expert and novice welcome. Call Zachary Sempers at (818) 701-1355 for information.

OPEN SYSTEMS ACCOUNTING

Open Systems Accounting, SoCal User's Group. OSASCUS would like to extend an invitation to users, consultants and business people interested in sharing information regarding OSAS. We'll discuss OSAS, single user and networked systems and more! We meet on the fourth Wednesday of the month at Wyle Laboratories, Irvine, CA. For more information call Mark at (714) 955-1724.

OSBORNE

TUG-NET Kaypro and Osborne SIG meets 4th Thursdays, 7 pm, Central Savings, 4464 Van Nuys Blvd., Sherman Oaks. BBS (818) 882-6045, 8-N-1, 1200 baud, 24 hours.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG, we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings *second* Wednesday of the month, 7:00 - 10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Osborne National Users Group meets 2nd Fri./mo. at 7:30 pm at Wizard of Oz, 20630 Lassen St., Chatsworth, CA 91311. Contact Art Schlefstein, (818) 709-6969.

PARADOX

Southern California Paradox Users Group. Anyone with an interest in the relational database Paradox please send an SASE to Brian Smith, 350 Palos Verdes Blvd., Redondo Beach, CA 90277. Meetings are being held in LA and Orange County.

RADIO SHACK TRS

South Bay Color Computer Club TRS-80, TDP-100, Dragon. Meets third Friday of the month at Mercury Savings, 22939 Hawthorne Blvd., Torrance. Info: Andrew Corlett, 1435 W. 172nd St., Gardena, CA 90247. (213) 538-8394.

OCTUG-Orange County TRS-80 Users Group. Meets the 3rd Sunday of each month in the community room at "The City Shopping Center" in Orange. The room is near the green entrance of the mall (N.E. corner). MS-DOS SIG (Special Interest Group) begins at 11:30 am. General meeting begins at 1:30 pm. Devoted to the Tandy line of computers and compatibles. Come on down and see what it's like. For more info, contact Franco Collino, (714) 750-0887.

San Gabriel Valley TRS-80 Users Group. Supporting users of TRS-80 and Tandy computers. Meets 2nd Friday of each month at Arcadia Park Senior Citizens Center at 7:30 p.m. Monthly newsletter, various SIGs, lotsa fun & info. Contact Dan Dresselhaus. (818) 914-5831 days.

VTUG (Valley TRS-80 User Group). Devoted to users of TRS-80 Model I, II, 4, 4P, LNN or MAX-80. Speakers, presentations, raffle drawing, refreshments. No admission or membership fee, new members welcome. Meetings at Glendale Federal Savings, 7129 Topanga Canyon Blvd., Canoga Park, 3rd Thurs., 7:30 pm. Contact Fred Blechman, (818) 346-7024.

VTHG Valley TRS80 Users Group. Meets first Friday of the month at 7:30 pm, Valley Plaza Recreation Center, 12240 Archwood St., North Hollywood, CA. One block south of Vanowen St. Four blocks west of Laurel Canyon Blvd. RAM SECTION, bring all the questions, ideas and information that you have and share them. ALSO, don't forget to bring your blank diskette to exchange for the new club disk from Eric. For more information call (818) 982-0467 or write P.O. Box 9747 North Hollywood, CA 91609.

COCO 1-2-3, Color Computer, Models 1,2,3. Meets second Friday of the month at 7:30 pm, Valley Plaza Recreation Center, 12240 Archwood St., North Hollywood, CA. One block south of Vanowen St. Four block west of Laurel Canyon Blvde. RAM SECTION, bring all the questions, ideas and information that you have and share them. ALSO, don't forget to bring your blank diskette to exchange for the new club disk from Paul For more information call Harry Tischler (818) 997-6000 or write 7560 Woodman Pl. No. E8 Van Nuys, CA 91405.

Tandy 1000 (The MUG) Meets fourth Wednesdays, 7 pm, 9027 E. Artesia, Bellflower, CA. Contact Dick Sherwood, 4014 Centralia St., Lakewood, 90712, (213) 421-4014. The MUG RBBS (213) 425-0022, members only.

Color America. Radio Shack color Computer SIG meets 2:30-5 pm on the third Saturday

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of the month at Rosemead Community Center, 3936 N. Muscatel Ave., Rosemead. Contact Mark Randall, 2227 Canyon Rd., Arcadia, CA 91006. (818) 355-6111.

The Los Angeles-Wilshire Color Computer Users' Group, a TRS-80 Color Computer Users' Group, meets the 2nd Saturday of each month, 12:30 pm-5:30 pm in the Felipe de Neve library's community room, 2820 W. 6th, Los Angeles. Call Milton, (213) 558-4909.

United Computer Federation-San Fernando Valley Chapter. Meets the fourth Tuesday of each month at the Tarzana Radio Shack, 18545 Ventura Blvd., 1/2 block west of Reseda Blvd. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups. For more information phone Pete Ellison, chapter president, at (818) 840-8902.

United Computer Federation-Los Angeles Chapter. Meets the fourth Thursday of each month at the Church of Christ recreational building, corner of Clark and Park streets, just off the 91 freeway in Bellflower. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups. For more information phone Gary James, chapter president, at (213) 420-7632.

United Computer Federation-Orange County Chapter. Meets the second Sunday of each month at the Mercury Savings building on Edinger Ave., 1 block north of Beach Blvd. in Westminster. Meeting starts at 1:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups. For more information phone Allen Nedrow, chapter president, at (213) 692-3073.

SBT

The Orange County SBT Users Group is being formed and is seeking members who are interested in an atmosphere that promotes the better understanding and more efficient use of the SBT Accounting Software. Contact Jay Rubin, P.O. Box 5145, Newport Beach, CA 92662, (714) 720-8171.

SANYO

Sanyo-MS/DOS Table Top Computers, 14717 South Prairie Ave., Lawndale, CA 90260. (213) 679-1151.

Zenith-Sanyo Users Group meets 10 am every first and third Sunday at 401 S. La Brea Ave., Inglewood, CA 90301. Call Alan Gillen, (213) 674-0318 for information.

Sanyo Users Group of LA (SUGLA). Devoted to users of Sanyo MBC 550/555 micro business computer. Guests welcome. Dues $15/yr. Speakers, presentations, public domain software library, information, new hardware and software reviews. Meetings 2nd Wednesdays, 7 pm, CAL State University, LA, Student Union (Bldg. #5), 4th floor in South Pasadena Room. Contact Fred Blechman, (818) 346-7024.

TEXAS INSTRUMENTS

LA 99er Computer Group. TI 99/4A support, classes and SIGs, large software library, monthly newsletter. Demonstrations, bulk purchase discounts on hardware, software and books. A good group to join. Meetings at Torrance Public Library, 3301 Torrance Blvd. (corner of Madrone), Torrance, CA. 4th Wednesday of the month, 7 pm. Contact Terrie Masters, 148 S. Maple Drive, Beverly Hills, CA 90212, (213) 271-6930.

The TI-99 Club. Yes, there still are a lot of 99's and 99/4a's around. If you own one, then get in touch with these people. They have good info for TI owners. Meetings take place at the Westminster Community Center on the third Thursday of every month at 7:00 pm. For info, call (714) 842-0859.

TI-West (Los Angeles -West Side Area). Meets at DeCoursey Engineering Laboratory, 11828 W. Jefferson Blvd., Culver City, on the 3rd Monday of each month. For information, contact Lew Howard at (213)397-9668.

San Fernando Valley TI 99/4A User Group. Library, Workshops, Newsletter, How To? For further information call Jim Edwards, (818) 248-9558, 5-10 pm. Meetings 2nd Wednesday of the month, 7:30 pm, Doctor's Conference Room, Sherman Oaks Community Hospital, 4929 Van Nuys Blvd.

San Gabriel Valley TI 99/4 Users Group meets 1st Wed./mo. at 6:30 pm in the Covina Parkway, West Covina, CA. Contact Tom Padilla, (213) 330-8240.

TI Riverside UG. Supporting the TI 99/4A. Meetings at Collett School, 3rd Thursday, 7 p.m. Contact Ed Butcher, 3523 McKinley St., Riverside, (714) 686-0336.

Antelope Valley TI UG. TI User Group. Meetings at Palmdale Culture Center, 3rd Wed., 7 pm. Contact Len Rouw, 38540 26th St. East, (805) 947-6270.

El Toro 99 Home Computer Users Group. The ET-99 Home Computer User Group meets to demonstrate programs, equipment, and discuss techniques. Contact Ken Baldwin, 23065 Sonoita, Mission Viejo, CA 92641. (714) 855-0480. Meetings at Mercury Savings and Loan, 1-5 and Lake Forest, El Toro, 2nd Saturday of each month 9 am - 12 noon.

Tri-Valley 99'ers. We have what you're looking for! Interesting guest speakers, software/hardware demonstrations, large group library, monthly newsletters. We serve the entire Conejo Valley and beyond! Contact Steve Mehr (805) 496-8725 or Chuck Salvatore, (805) 527-4129 for more information.

BUG (Brea 99er's Users Group). Meets the first Monday of the month at 7:30 pm at the Western Federal Savings meeting room, #10 La Habra Fashion Square, corner Beach and Imperial, in La Habra. For further information call Bob August at (714) 871-3405.

San Fernando Valley Texas Instruments Professional Computer User Group (SFV TI-PRO USER GROUP). Meets at 9017 Reseda Blvd. Suite #212, Northridge, on the 3rd Sunday of each month at 10:00 am. We serve the entire San Fernando and Santa Clara Valleys. Group meets to discuss: how-to techniques, programs, equipment and software. All are welcome—bring a friend. TI-Pro/AutoCAD Users are also welcome. For more info, contact Marcus Swed at (818) 993-3151 during the day and at (818) 366-0886 evenings.

The Pomona Valley 99ers Computer Users Group. Meets locally every month on the second Monday of the month. Anyone interested in home computing is welcome to come to our meetings at 7:00 pm. We meet at the Cortez Elementary School at 12750 Carissa Ave., Chino, which is south of the Pomona Freeway and west of Mountain Ave. There are demos of hardware and software. Mostly for the Texas Instruments 99/4A computer. Lots of discussion. We try to educate and stimulate interest in computer literacy and programming. If you become a member of this non-profit group you'll get a monthly newsletter and be able to get copies of the programs in the large club library of public domain software.

TIMEX-SINCLAIR

Timex-Sinclair. South Bay and West Side groups. Call John W. Petersen at (213) 545-9581 anytime or Dr. George Kuby (213) 201-2014 after 3 pm for more information.

TOMY

Tomy Tutor computer user group. Contact Eugene C. Dinovo, P.O. Box 37, Sepulveda, CA 91343.

VICTOR

West Los Angeles Victor Users Group (WLA-VUG). Victor 9000 users - you are not alone! Meet other users. Free V9000 software & purchasing discounts for members. Victor-specific bulletin board (818) 989-2216. Meetings at 8651 Olin St., LA 90034, 7 pm, 3rd Thursday, every month except December. Contact Roger Goodman, (213) 558-8363.

Orange County Victor 9000 User Group. Meets fourth Wednesday of the month at Mayward Siler & Assoc., 12062 Valley View, Suite 210, Garden Grove, CA 92645. Contact Don Henderson, 1201 Drayton Way, Tustin, CA 92680. Phone: (714) 730-6015.

WANG

Wang WP Users Group. Meets 4th Thurs. of each odd month, 6 pm. Newsletter, speakers,information network. Call for meeting place: Steven Hirsh, (213) 255-5515, or write 2858 El Roble Drive., Los Angeles 90041.

WORDSTAR

WordStar User Group LA. Now forming. for all WordStar users, regardless of computer. Discussion, lectures, presentations, & demos, including enhancement products. Shortcuts & discount purchases. All experience levels. Call for info about first meeting: Ken Adler, (818) 501-4798, (818) 783-4533.

XSCRIBE

X.C.E.L. (XScribe Court Reporters for Education and Learning). XScribe users can share knowledge, have sessions on resolving problems encountered, and keep abreast of activities in the C.A.T. field. Contact Diane Altshuler, XScribe Corp., 3366 N. Torrey Pines Ct. Suite 300, La Jolla, CA 92037. (800) 854-2919.

ZENITH

Zenith-Sanyo Users Group meets 10 am every first and third Sunday at 401 S. La Brea Ave., Inglewood, CA 90301. Call Alan Gillen, (213) 674-0318 for information.

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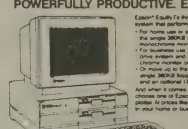

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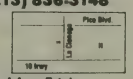

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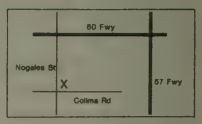

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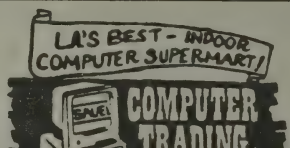

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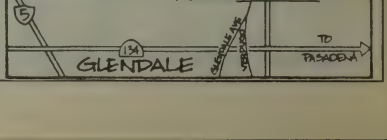

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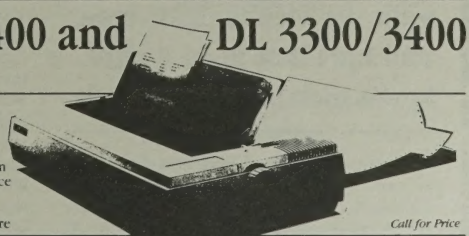

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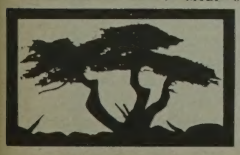

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DVORAK'S LAST COLUMN

Reading Between The Lines:

Intelligence Gathering In The Modern World And The Bill Gates Gospel

By John C. Dvorak

Much of the gossip and inside stuff in this business is obtained through the old fashioned grapevine, whereby someone tells someone who tells someone who tells me. The best inside information, though, is researched.

I like to scan obscure periodicals and journals for interesting articles. The best of these periodicals, for this business, are the many users' group magazines. While many of the articles in a users' group publication are of a specialized nature, of interest only to the locals and members of the club, a few of the publications provide transcripts or overviews of speakers' talks. Some groups even sell fascinating tape recordings. Many illustrious industry types sometimes say things in front of a users' group that they would never tell the most dogged reporter.

Sometimes some wild assertions are made too. When these are exposed to the public at large, the truth quickly emerges as a reader comes forth and tells the real story. Needless to say, I love plowing through these transcripts.

This month I'm going to look at The New York PC Users Group and its nifty newsletter — one I recommend to all. Besides transcribing the guest speaker's talk (peppered with much-needed critical analysis) the magazine has a superb columnist, Pat Adams (aka deep disk) who will eventually find his way into the mainstream press if he wants to. He writes a gossipy news/insiders column that specializes in baiting Ashton-Tate and, to a lesser degree, Lotus.

I figure that pretty soon Bill Gates will pull a Steve Jobs and say he invented the personal computer. Meanwhile, he's telling IBM, Apple and Intel how to do it right. I guess somebody's got to do it.

Recently, NYPC had Bill Gates as a speaker, and recently Microsoft invited NYPC and a slug of other users' groups to Washington State to propagandize them. The reports from the Washington meeting and the transcript from Gates revealed a number of fascinating comments.

Let me outline the most interesting quotes (in no particular order) and let's see what's up.

Bill Gates Quotes

On the 80386: "However, the 80386, which Microsoft had an influential role in, is not the final word. Intel is now working very closely with us to come up with a new instruction set processor that will go beyond the 80386."

Later he says, "I think Intel's done a great job. Its 80386 is a fantastic chip, and we have a very close relationship with Intel working on its next chip."

On IBM and OS/2 Gates says: "Microsoft was successful in convincing IBM that the key improvement needed was graphics capability, so the PS/2s incorporate high resolution graphics called VGA."

"I don't use the PC mouse at all."

"OS/2 error messages are very extensive; there's 100 times more error message text in OS/2 than there is in MS-DOS."

"When I partitioned the one megabyte memory space as 384K for dedicated things and 640K for general RAM, I didn't expect us to run out so quickly."

"There's no code in OS/2 that looks for the Micro Channel."

On the Macintosh and other developments: "We actually started our software development on the Macintosh over a year before the machine was introduced, and had more software people working on that project than even Apple did."

"We believe some of the central ideas of the Macintosh interface were fundamentally correct."

"We're working on a machine that produces full motion video with a quality better than your TV set."

Listening to this stuff I figure that pretty soon Gates will pull a Steve Jobs and say he invented the personal computer. Meanwhile, he's telling IBM, Apple and Intel how to do it right. I guess somebody's got to do it.

While Gates was obviously influential in the design of the original IBM PC with its cassette port and ROM MS-BASIC, it's interesting to talk to Bill Millard, former head of Computerland. Computerland was chosen by IBM to figure out what was wrong with the PC from the user's perspective. Apparently a lot of changes were made. When the PCjr, portable PC and other IBM clunkers came out, no such input was requested, so it is assumed that Microsoft and IBM showed their true abilities. I have never been able to determine what the original IBM PC was like before the Computerland suggestions. The cassette port and ROM-BASIC are an indication that it wasn't so hot.

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But no matter; besides the constant self-congratulations, we do get some juicy tidbits here. Mainly that Intel is designing something totally new. Rumor has it that Intel (and Motorola) are designing some high speed RISC chips for the next generation of PCs. It will be important to have a lot of software for such a chip. Especially important and much needed will be emulation software so the thing can work like an 80386 too. Microsoft is a candidate for this project and it's logical that they'd have something to say to the chip designers. From the sound of it, though, Microsoft has a guy working at Intel.

The other interesting tidbit in amongst the quotes has it that Microsoft has hopes of reviving dead dreams of the home market. The company was heavily involved in a recent fizzle called MSX — the last great hope of the home market. Running Microsoft software and having a common bus, the MSX machines were last ditch Japanese Z-80's that were to attack the market right in the middle of the IBM PC phenomenon. The last I heard of it was a few years ago when a guy said, "MSX isn't dead. MSX-II is incredible and will save it." The guy who told me this is now a toll taker on the New Jersey Turnpike.

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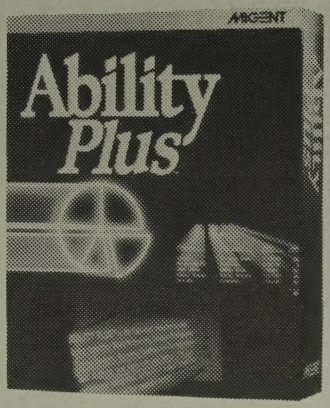

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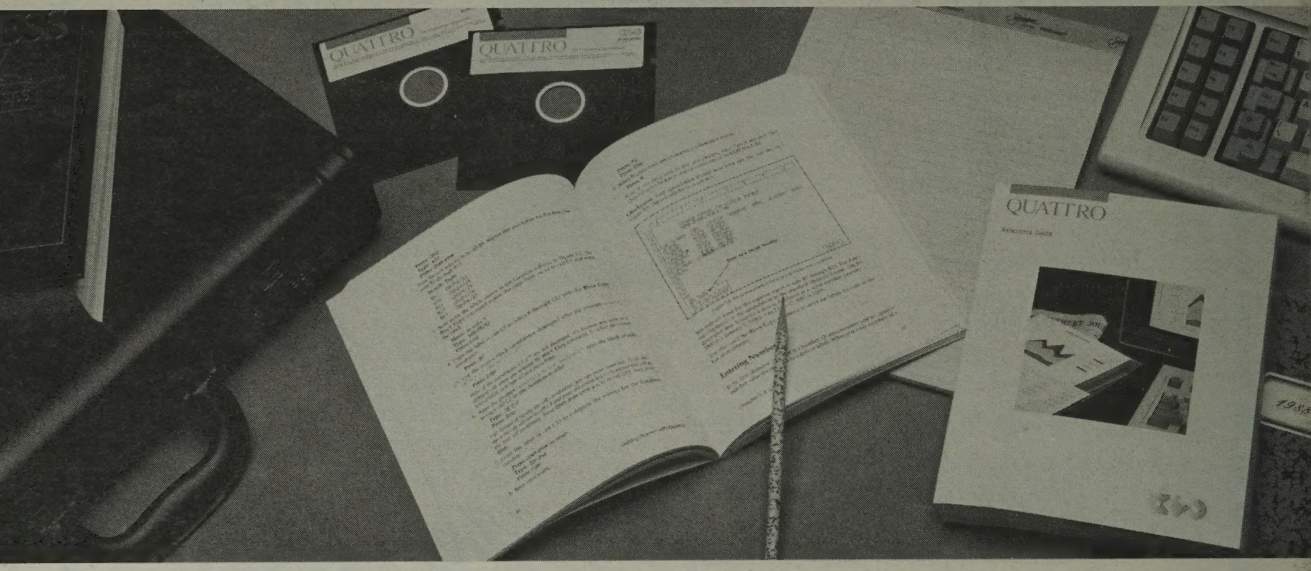
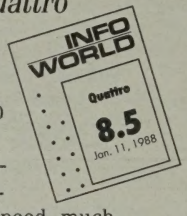
"Those who are considering purchasing 1-2-3 will be better off with Quattro"

—John Walkenbach, InfoWorld



Here's what InfoWorld had to say about Quattro



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Excerpts from John Walkenbach's review of Quattro™ in InfoWorld, January 11, 1988.

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